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SALARIES

OF

SCIENTISTS • ENGINEERS

AND TECHNICIANS

... A Summary of Salary Surveys .

Fourteenth Edition

**COMMISSION ON PROFESSIONALS IN
SCIENCE AND TECHNOLOGY**

FEBRUARY 1990

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OF
SCIENTISTS ■ ENGINEERS
AND TECHNICIANS

. . A Summary of Salary Surveys . .

FOURTEENTH EDITION

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COMMISSION ON PROFESSIONALS IN SCIENCE AND TECHNOLOGY

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INTRODUCTION

Salary surveys are conducted by a number of organizations, including agencies and departments of the federal government, professional, scientific and engineering organizations, educational associations, magazine publishers, other professional trade associations and organizations, as well as for-profit organizations. Some surveys deal directly with salaries of scientists and engineers, others cover broader occupational categories. Most salary surveys conducted by professional scientific and engineering societies cover only their membership. However, since such societies generally represent the majority of the population in their particular discipline, the results may be generalized to these professional populations. Some smaller salary surveys in specific disciplines are included for comparative purposes, as are surveys in occupations not specifically in science and/or engineering.

Although most of the salary data presented in this report are available from the original sources, this compilation brings together the information from a variety of sources both for purposes of comparison and for easier accessibility.

For a number of reasons, exact correlation of results of different surveys is generally not possible. Different methodologies are employed and differing populations are surveyed. The statistical reporting bases include medians, means, percentiles and ranges of one of these, which are not directly comparable. In addition to the "snapshot" characteristics of surveys, which provide information as of any given date, the time periods covered by the surveys include calendar year, fiscal year, academic year, and quarterly segments starting at various points in the year. The base and time period for each table is noted with the table and/or in the introductory statement for the section in which it appears.

Although no attempt has been made to evaluate the relative reliability of the various surveys, the number of people included in the statistics presented is given when known. In some cases, the number of respondents listed within a table will not match totals for all fields or all groups, either because some areas not applicable to science and engineering have been omitted, or because only selected variables have been included in the table.

The source of the data is given at the top of each table. Full bibliographic references for each data source begin on page 220. A cross-index beginning on page 224 and a detailed Table of Contents provide rapid access to specific salary information.

Generally, only the most current salary information is included from each data source. However, some trend data, usually limited to the survey immediately preceeding the current survey, are included for comparison. Long trend salary information may be examined by referring to earlier editions of this publication which has been issued biennially since 1964. Copies of the first 13 editions of **SALARIES OF SCIENTISTS, ENGINEERS AND TECHNICIANS - A SUMMARY OF SALARY SURVEYS** are available from the **Commission on Professionals in Science and Technology**.

This report was prepared by **Eleanor L. Babco**, Associate Director of the Commission on Professionals in science and Technology. Special thanks are extended to Fred Duffy and the CPST staff for their invaluable assistance.

STARTING SALARIES

The College Placement Council's **SALARY SURVEY - A STUDY OF 1988-89 BEGINNING OFFERS** reports offers, not acceptances, with no limit on the number of offers per student. Therefore, offers cannot be equated with actual hires. Data cover offers made to graduating college students at all degree levels in a wide variety of curricula during the recruiting period September 1, 1988 to August 31, 1989. Information is submitted throughout the year by 418 career planning and placement offices of colleges and universities across the United States.

The July 1989 report found recruiting activity on college campuses has gained considerable momentum since the previous year with substantial increases in average salary offers for most disciplines. Starting salary offers to chemical engineers continue to climb with the average offer to these graduates up 6.3% to \$32,949. However, petroleum engineering graduates hang onto the top-dollar position at \$32,987, up 3% over 1987-88, while architectural engineering graduates reported the lowest salaries - \$25,871. Computer science graduates topped all the natural science fields except actuarial science, where the number of offers was small. In the sciences category, physics graduates followed actuarial sciences, reporting an average salary offer of \$28,296, while biological sciences candidates reported the lowest - \$20,998. Bachelor's-degree candidates in the business disciplines also are benefitting from strong corporate recruiting. The average starting salary offer to accounting graduates increased 5.4% to \$25,920. Business administration graduates experienced a 3.8% increase to an average of \$22,274. Graduates in human resources posted the biggest gain - a 13.4% jump to an average of \$23,035. Management information graduates received an average salary offer of \$26,861, up 8% over last year. Hotel and restaurant management graduates registered a slight decrease of 1.3% to an average of \$19,859. The expanded **Salary Survey** now reflects the demand for graduates in the allied health fields. Starting salary offers to these graduates rose 8.7% to an average dollar figure of \$24,496. The increased demand for nurses pushed their average offer 4.8% higher to \$24,789 (Table 1).

Men received 80% of the offers reported in the engineering disciplines, but women graduates in petroleum engineering were offered the highest overall average engineering salary of \$33,728. Although women received equal or nearly equal starting salary offers in the engineering disciplines, wide disparities existed in other disciplines. In the sciences, men received 24% more in the biological sciences - \$24,461 compared to \$18,633; and 11% more in psychology - \$20,541 compared to \$18,236. A degree for women in computer programming was worth only 90% of the offer for men. In systems analysis, however, offers were equal. Offers to men and women in the business disciplines were closely split, with 53% of the offers going to men and 47% to women, and salaries were very comparable in most of the business disciplines for men and women (Table 2).

By functional area, the bulk of the offers to both men and women were for engineering and accounting jobs. The salary offer was highest for both men and women in process engineering - \$32,046 for men and \$32,101 for women. Salary offers were lowest in some of the communications fields, the performing arts and social work for both men and women (Table 3).

At the master's level, graduates also fared well. Slight increases were garnered by M.B.A. candidates, with both nontechnical and technical undergraduate degrees and no work experience. However, those with experience received at least 3.3% higher salary offers. The greatest increase - 8.9% - went to M.B.A. candidates, with technical undergraduate degrees and two to four years of work experience at \$47,967. As they did at the baccalaureate level, petroleum engineers received the highest salary offers - \$38,475, followed by computer engineers at \$37,183. In the sciences, computer science candidates received the highest offers at \$35,823, (Table 4).

At the doctoral level, a few computer engineering candidates received the highest average salary offer - \$53,380, followed by aerospace engineers at \$50,776. Of the disciplines reported, those doctoral candidates in English received the lowest salary offers - \$24,500, less than one-half the salary offer of computer engineers (Table 5).

The general upward trend in starting salaries of inexperienced college graduates continues, according to the annual **1988 COLLEGE RECRUITING REPORT** by Abbott, Langer & Associates, which details starting salaries of over 8,000 college graduates hired by 16 types of employers. At the bachelor's level, engineering graduates tied with computer science graduates, reporting the highest median monthly starting salary - \$2,500 - while those in the biological sciences reported the lowest - \$1,600. Within the engineering disciplines studied, electrical and chemical engineers reported the highest monthly starting salary - \$2,500 - while agricultural engineers reported the lowest - \$1,854, (Table 6).

At the master's level, the highest median salary was reported by graduates in business, economics and finances - \$3,134 per month, followed by civil engineering graduates at \$2,833. For all engineering graduates, the median

starting salary was \$2,800, which was also reported for graduates in computer science (technically-related), mathematics/statistics and physics. The lowest starting salary was reported by graduates in biological science (Table 7). M.B.A. graduates with business, economics or finance undergraduate degrees reported the highest median starting salary - \$3,655 - while those with liberal arts undergraduate degrees reported the lowest median - \$2,333 (Table 8).

Both engineering and scientific/technical Ph.D. graduates had a median starting salary of \$3,333 per month (Table 9).

Junior/community college graduates with engineering-related A.A. degrees had a median starting salary of \$1,707 per month, but the highest median salary was for graduates in computer programming at \$1,750 per month. Not surprisingly, the lowest salary was reported by graduates in secretarial science - \$1,300 per month (Table 10). Starting salaries for bachelor's graduates by discipline and type of industry are shown in Tables 11 and 12. The highest paying employer for engineering graduates were petroleum/natural gas producers - extracting/refining at \$2,708, while the lowest-paying were banks and other financial firms and merchandising firms.

The **NORTHWESTERN ENDICOTT-LINDQUIST REPORT 1987** is the 43rd annual survey of policy and personnel practices related to the employment of college and university graduates in business and industry. Data from 242 well-known companies in 26 states representing all regions of the country indicate that the job outlook in their organizations is bright. At the bachelor's level, engineering graduates will continue to receive the highest average starting salary - \$2,550 per month, followed by chemistry graduates at \$2,374. At the low end of the scale are graduates in sales/marketing. However, these new baccalaureates received the highest percentage increase - 8.9% (Table 14). Among engineering graduates, those majoring in petroleum engineering received the highest starting salaries - \$2,929 per month, followed by those in mechanical engineering at \$2,593 per month (Table 13).

A more competitive, tighter job market is expected in 1989-90 for placement of new college graduates, with starting salaries up about 3.3%, according to **RECRUITING TRENDS 1989-90** by L. Patrick Scheetz of **Michigan State University**. Overall, a decrease of 13.3% is expected when compared to 1988-89 hiring of new college graduates. Highest starting salaries are expected to go to chemical engineers at \$33,380, followed by mechanical engineers at \$32,226, electrical engineers at \$32,107 and computer scientists at \$31,389. At the low end of the scale are graduates in human ecology/home economics with expected starting salaries of \$18,157. For advanced degree graduates, those with MBAs will get the highest starting salary - \$39,840 (Table 15).

Starting salaries for inexperienced chemists have varied considerably from year to year. At the bachelor's level, median salaries increased 5% for chemists to \$23,000 and 6.5% for chemical engineers to \$33,000 in 1989. Median monthly salaries for men and women chemists from 1961 through 1989 are shown in Table 16. Starting salaries for men and women chemists have varied through the years, but in 1989 again reached parity as they did in 1982. At the master's level, median salaries were up over 13% to \$30,300 for chemists and up 9% to \$33,000 for chemical engineers. Doctoral level chemists experienced the smallest increase in salaries - only 3.7% to \$42,000 as did doctoral level chemical engineers who experienced a 6% increase to \$47,000, according to the **American Chemical Society's STARTING SALARIES 1989**.

Where a chemist or chemical engineer works has an effect on starting salary. Regardless of degree level or sex, chemists and chemical engineers earn the most working in private industry and the least working in academic institutions (Tables 17 and 21). As shown in Table 24, industrial chemists at the baccalaureate level earn \$2,000 (8.7%) more than chemists working for all other employers. However, because most chemical engineers are employed in industry, there is no difference in salaries for those employed in industry and those employed elsewhere.

Degree specialty also affects salary levels for graduate chemists. Master's level physical chemists report the highest starting median salary (\$34,300), while organic Ph.D. chemists earned the highest starting salary (Table 18). Median annual salaries of chemists and chemical engineers by degree level and length of work experience is shown in Table 19. Table 20 shows both median and mean starting salaries for chemists and chemical engineers by degree level and sex.

Those chemists working in management or administration report the highest starting salary, while those teaching report the lowest regardless of degree level (Table 22). Bachelor's level chemists working in the Middle Atlantic region reported the highest starting salaries, while doctoral-level chemists working in the Pacific region earned the most (Table 23).

The 1989 ANNUAL AMS-MAA SURVEY of New Doctorates by the American Mathematical Society and the Mathematical Association of America, prepared by Edward A. Connors, found that business and industry continued to pay the highest starting salaries for both men and women Ph.D.s in mathematics (Table 25). It is particularly noteworthy that women doctorates in mathematics are receiving starting salaries higher or at least comparable to those received by men. Trends in median starting salaries for doctorates in mathematics are shown in Table 26).

Robert Half, International has been conducting a SALARY SURVEY in the fields of Accounting, Finance, Banking and Information Systems since 1950. Historically, a significant relationship existed between staff/installation size and the level of salaries paid. Although this relationship continues to some extent, the more significant factor in the 1990s will be the complexity of the technology used. In large installations, in the systems and programming area, senior managers experienced the highest salary gains - 8.4%, while programmers experienced the lowest - 2.6%. Percentage increases and salary ranges by position in large installations are shown in Table 27. Similar information for personnel employed in small installations is shown in Table 29. However, there are some job positions that are not directly related to size of staff/installations. Salary ranges for these jobs are shown in Table 28.

Industry continues to pay the highest median starting salary to new physics baccalaureate graduates, regardless of degree level, according to the 1987-88 SURVEY OF PHYSICS AND ASTRONOMY BACHELOR'S DEGREE RECIPIENTS and the 1987-88 GRADUATE STUDENT SURVEY conducted by the American Institute of Physics. Table 30 shows that women report higher starting salaries at the baccalaureate level in 1988 than do men. Table 31 presents starting salaries by degree level and type of employer.

The second annual GEOSCIENTIFIC EMPLOYMENT AND HIRING SURVEY - 1989, conducted by the American Geological Institute examines and assesses the need for and availability of geoscientists in a wide range of fields in a number of employment sectors. Starting salaries for inexperienced geologists, regardless of degree level, were highest in the domestic oil and gas industry, and lowest in academia for baccalaureates and doctorates, but lowest in research institutions for master's level geologists (Table 32).

The third annual NATIONAL COMPENSATION SURVEY OF RESEARCH AND DEVELOPMENT SCIENTISTS AND ENGINEERS, conducted by The Hay Group, Washington, DC for the U. S. Department of Energy, continues a series conducted for 18 years by the Battelle Columbus Laboratories. The 1989 survey report represents the largest nationwide database of its kind, covering 102 establishments which provided data on nearly 36,000 degreed researchers in the "hard" sciences. Analyses of salaries for some 31,000 non-supervisory researchers are provided by a number of variables. In 1989, new bachelor's level physics graduates commanded the highest median starting salaries - \$2,718 per month, followed by engineers at \$2,591 (Table 33). By working-as-occupation, electrical and electronic engineering reported the highest starting salaries \$2,657 per month, while materials engineering reported the lowest (Table 34).

The U.S. Department of Labor's OCCUPATIONAL OUTLOOK HANDBOOK includes information on starting salaries, as well as estimates of the number of people employed in a wide variety of fields. Table 35 summarizes starting salary information from the 1988-1989 edition on a selected number of scientific and engineering fields by employment sector.

The 1989 MIDWEST COOPERATIVE EDUCATION STUDENT EMPLOYEE SALARY & BENEFITS SURVEY, conducted by the Cooperative Education Research Program at Wayne State University, provides average and median monthly starting salaries to new cooperative education baccalaureate graduates in nine midwest states by curriculum. Information from this survey for 1989 is summarized in Table 36.

Source: The College Placement Council, CPC Salary Survey - A Study of 1988-89 Beginning Offers, July 1989

TABLE 1

NUMBER AND AVERAGE STARTING SALARY OFFERS TO INEXPERIENCED
BACHELOR'S DEGREE CANDIDATES BY CURRICULUM, JULY 1989 AND SEPTEMBER 1988

CURRICULUM	NUMBER OF OFFERS	AVERAGE \$ OFFERS		PERCENT CHANGE IN \$ OFFERS
	JULY 1989	JULY 1989	SEPT. 1988	SEPT. 1988
BUSINESS				
Accounting	5,444	\$25,290	\$24,000	5.4%
Business Admin. & Mgmt. Science	1,411	22,274	21,456	3.8
Distribution Management	82	24,447	*	*
Economics & Finance (Incl. Banking)	2,160	24,649	*	*
Hotel/Restaurant Management	124	19,859	20,124	-1.3
Human Resources	136	23,035	20,316	13.4
Management Info. Systems	514	26,861	24,864	8.0
Marketing/Marketing Management	1,605	22,523	*	*
Real Estate	20	23,571	*	*
COMMUNICATIONS				
Advertising	75	19,367	19,380	-0.1
Communications	298	20,761	20,220	2.7
Journalism	119	19,595	18,372	6.7
Telecommunications Broadcasting	54	19,239	*	*
EDUCATION				
Elementary Education	383	18,578	*	*
Pre-Elementary Education	10	16,203	*	*
Physical Education	35	19,309	*	*
Special Education	88	19,879	*	*
HOME ECONOMICS				
Human Ecology	24	18,665	*	*
Textiles & Clothing	98	19,944	*	*
Merchandising Management	50	19,458	*	*
HUMANITIES & SOCIAL SCIENCES				
Foreign Languages	55	20,666	*	*
Letters	189	20,348	20,664	-1.5
Visual & Performing Arts	77	18,099	*	*
Humanities-Other	111	23,010	*	*
Criminal Justice	64	20,521	19,512	5.2
History	86	21,275	22,848	-6.9
Political Science/Government	190	22,116	*	*
Psychology	229	19,061	20,592	-7.4
Sociology	86	19,021	*	*
Social Sciences-Other	96	20,205	*	*
COMPUTER SCIENCES				
Computer Science	1,215	28,557	*	*
Computer Programming	118	28,711	*	*
Information Sciences & Systems	344	26,853	*	*
Systems Analysis	25	29,176	*	*

*No Historic Data Available

Source: The College Placement Council, CPC Salary Survey - A Study of 1988-89 Beginning Offers, July 1989

TABLE 1 (Continued)

NUMBER AND AVERAGE STARTING SALARY OFFERS TO INEXPERIENCED
BACHELOR'S DEGREE CANDIDATES BY CURRICULUM, JULY 1989 AND SEPTEMBER 1988

CURRICULUM	NUMBER OF OFFERS	AVERAGE \$ OFFERS		PERCENT CHANGE IN \$ OFFERS
		JULY 1989	SEPT. 1988	SEPT. 1988
ENGINEERING				
Aerospace & Aeronautical	433	\$29,424	\$28,176	4.4%
Agricultural	29	25,984	25,020	3.9
Architectural	31	25,871	*	*
Bioengineering & Biomedical	26	28,135	28,272	-0.5
Chemical	1,760	32,949	30,996	6.3
Civil	1,085	26,735	25,596	4.5
Computer	471	30,413	*	*
Electrical	3,279	30,661	*	*
Industrial	746	29,812	28,476	4.7
Mechanical	3,037	30,539	29,388	3.9
Metallurgical	257	30,708	29,448	4.3
Mining	32	26,840	*	*
Nuclear	53	31,281	28,740	8.8
Petroleum	117	32,987	32,016	3.0
Textile	46	26,633	*	*
Engineering Technology	389	28,310	27,396	3.3
Industrial Technology	84	26,652	*	*
AGRICULTURE & NATURAL RESOURCES				
Agribusiness	49	23,177	*	*
Animal Sciences	23	19,381	*	*
Plant Sciences	9	20,031	*	*
Natural Resources	13	21,622	19,932	8.5
Other Agricultural Sciences	68	21,656	*	*
HEALTH SCIENCES				
Allied Health	81	24,496	22,536	8.7
Health Sciences	34	20,911	*	*
Nursing	223	24,789	23,652	4.8
Pharmacy	110	35,173	34,356	2.4
SCIENCES				
Actuarial	32	30,244	*	*
Architectural & Environmental Design	32	23,763	*	*
Biological	69	20,998	20,364	3.1
Chemistry	133	26,698	26,004	2.7
Geological	19	23,724	*	*
Mathematics (incl. Statistics)	245	26,789	*	*
Physics	51	28,296	27,816	1.7
Other Physical & Earth Sciences	15	22,829	21,216	7.6

*No Historic Data Available

Source: The College Placement Council, *CPC Salary Survey - A Study of 1988-89
Beginning Offers, July 1989*

TABLE 2

NUMBER AND AVERAGE STARTING SALARY OFFERS TO INEXPERIENCED BACHELOR'S
DEGREE CANDIDATES BY CURRICULUM AND SEX, JULY 1989 AND SEPTEMBER 1988

CURRICULUM	NUMBER OF OFFERS JULY 1989		AVERAGE \$ OFFER JULY 1989		AVERAGE \$ OFFER SEPTEMBER 1988	
	MEN	WOMEN	MEN	WOMEN	MEN	WOMEN
BUSINESS						
Accounting	2,619	2,825	\$25,328	\$25,254	\$24,096	\$23,916
Business Admin. & Mgmt. Science	800	611	22,738	21,666	21,756	21,096
Distribution Management	53	29	24,324	24,673	*	*
Economics & Finance (Incl. Banking)	1,320	840	24,659	24,634	*	*
Hotel/Restaurant Management	66	58	19,937	19,771	20,832	19,584
Human Resources	71	65	23,951	22,035	20,268	20,340
Management Info. Systems	281	233	27,004	26,689	24,900	24,828
Marketing/marketing Management	844	761	22,898	22,108	*	*
Real Estate	14	6	25,293	19,554	*	*
COMMUNICATIONS						
Advertising	24	51	21,574	18,328	20,928	18,540
Communications	133	165	21,204	20,404	20,796	19,800
Journalism	37	82	20,438	19,215	18,876	18,024
Telecommunications Broadcasting	23	31	17,627	20,434	*	*
EDUCATION						
Elementary Education	66	317	18,863	18,519	*	*
Pre-Elementary Education	+	10	+	16,203	*	*
Physical Education	19	16	19,243	19,387	*	*
Special Education	10	78	20,018	19,861	*	*
HOME ECONOMICS						
Human Ecology	3	21	19,200	18,577	*	*
Textiles & Clothing	4	94	22,125	19,851	*	*
Merchandising Management	3	47	22,667	19,253	*	*
HUMANITIES & SOCIAL SCIENCES						
Foreign Languages	18	37	22,334	19,855	*	*
Letters	67	122	21,779	19,562	22,728	19,764
Visual & Performing Arts	29	48	17,527	18,445	*	*
Humanities - Other	53	58	22,969	23,046	*	*
Criminal Justice	38	26	20,830	20,069	20,364	17,904
History	55	31	21,326	21,184	24,576	20,484
Political Science/Government	124	66	22,413	21,558	*	*
Psychology	82	147	20,541	18,236	21,636	19,884
Sociology	37	49	20,356	18,014	*	*
Social Sciences - Other	41	55	21,508	19,234	*	*
COMPUTER SCIENCES						
Computer Science	872	343	28,736	28,101	*	*
Computer Programming	95	23	29,273	26,391	*	*
Information Sciences & Systems	197	147	26,380	27,488	*	*
Systems Analysis	14	11	29,170	29,185	*	*

* No Historic Data Available

+ No offers reported

TABLE 2 (Continued)

NUMBER AND AVERAGE STARTING SALARY OFFERS TO INEXPERIENCED BACHELOR'S
DEGREE CANDIDATES BY CURRICULUM AND SEX, JULY 1989 AND SEPTEMBER 1988

CURRICULUM	NUMBER OF OFFERS JULY 1989		AVERAGE \$ OFFER JULY 1989		AVERAGE \$ OFFER SEPTEMBER 1988	
	MEN	WOMEN	MEN	WOMEN	MEN	WOMEN
ENGINEERING						
Aerospace & Aeronautical	353	80	29,415	29,466	28,152	28,332
Agricultural	24	5	26,729	22,408	25,356	22,248
Architectural	23	8	26,013	25,465	*	*
Bioengineering & Biomedical	9	17	25,991	29,269	26,412	30,144
Chemical	1,191	569	32,984	32,874	30,924	31,116
Civil	922	163	26,650	27,215	25,620	25,476
Computer	373	98	30,448	30,280	*	*
Electrical	2,737	542	30,703	30,729	*	*
Industrial	454	292	29,703	29,981	28,404	28,608
Mechanical	2,547	490	30,428	31,115	29,328	29,676
Metallurgical	186	71	30,618	30,943	29,556	29,220
Mining	27	5	26,569	28,300	28,448	*
Nuclear	48	5	31,439	29,764	28,416	30,420
Petroleum	106	11	32,911	33,728	31,656	34,728
Textile	37	9	26,641	26,600	*	*
Engineering Technology	343	46	28,271	28,602	27,516	26,664
Industrial Technology	76	8	26,685	26,330	*	*
AGRICULTURE & NATURAL RESOURCES						
Agribusiness	44	5	23,244	22,580	*	*
Animal Sciences	18	5	19,803	17,860	*	*
Plant Sciences	8	1	20,563	15,780	*	*
Natural Resources	11	2	23,096	13,514	20,376	*
Other Agricultural Sciences	57	11	22,121	19,245	*	*
HEALTH SCIENCES						
Allied Health	23	58	25,611	24,054	24,288	21,660
Health Sciences	7	27	20,518	21,013	*	*
Nursing	9	214	24,613	24,797	25,512	23,592
Pharmacy	55	55	35,091	35,256	34,728	34,200
SCIENCES						
Actuarial	19	13	30,427	29,977	*	*
Architectural & Environmental Design	23	9	24,603	21,618	*	*
Biological	28	41	24,461	18,633	21,180	19,944
Chemistry	86	47	27,679	24,902	26,208	25,536
Geological	16	3	23,835	23,133	*	*
Mathematics (incl. Statistics)	117	128	26,849	26,735	*	*
Physics	40	11	28,366	28,040	28,164	26,436
Other Physical & Earth Sciences	10	5	21,347	25,792	20,388	23,028

* No Historic Data Available

+ No offers reported

TABLE 3

**NUMBER AND AVERAGE STARTING SALARY OFFERS TO INEXPERIENCED BACHELOR'S
 DEGREE CANDIDATES BY FUNCTIONAL AREA AND SEX, JULY 1989 AND SEPTEMBER 1989**

FUNCTIONAL AREA (All Types of Employees)	NUMBER OFFERS	AVERAGE \$ OFFERS JULY 1989		
	JULY 1989	TOTAL	MEN	WOMEN
ENGINEERING				
Bioengineering	56	\$30,776	\$30,977	\$30,227
Design/Construct	2,065	28,700	28,598	29,242
Environmental Sanitation	227	28,622	28,087	30,144
Manufacturing/Industrial	2,865	30,639	30,572	30,942
Systems/Programming	452	30,219	30,323	29,832
Power Systems	405	30,169	30,086	30,598
Software Design & Development	494	30,503	30,473	30,656
Hardware Design & Development	416	30,925	30,884	31,108
Research & Development	954	31,002	30,987	31,044
Testing	399	29,179	29,231	28,985
Process Engineering	1,748	32,061	32,046	32,101
Other Engineering	1,212	30,854	30,759	31,161
FINANCE				
Accounting (Public)	4,492	25,765	25,757	25,773
Accounting (Private)	1,116	23,495	23,599	23,405
Commercial Banking (Consumer)	250	21,466	21,814	21,065
Commercial Banking (Lending)	222	23,003	22,913	23,198
Investment Banking (Corp. Finance)	78	27,030	27,869	25,141
Investment Banking (Mergers & Acquisitions)	28	29,304	30,079	27,667
Investment Banking (Real Estate)	13	25,715	30,086	20,617
Investment Banking (Sales & Trading)	32	22,882	23,542	20,901
Financial/Treasury Analysis	638	25,780	26,495	24,954
Portfolio Management Brokerage	89	23,789	24,761	22,485
Underwriting	147	21,929	21,985	21,860
COMMUNICATIONS				
Design/Graphic Arts	38	21,059	24,287	17,831
Media Planning	17	20,638	20,022	21,186
On-Air Reporting	8	16,438	15,417	19,500
Production	46	23,701	24,088	22,818
Public Relations	84	20,198	23,742	18,519
Writing/Editing	117	19,890	19,711	19,960
COMPUTER SCIENCE				
Computer Programming	1,039	27,559	27,795	27,054
Information Systems	426	27,077	27,281	26,816
Systems Analysis & Design	568	28,220	28,473	27,769

Source: The College Placement Council, *CPC Salary Survey - A Study of 1988-89 Beginning Offers*, July 1989

TABLE 3 (Continued)

NUMBER AND AVERAGE STARTING SALARY OFFERS TO INEXPERIENCED BACHELOR'S DEGREE CANDIDATES BY FUNCTIONAL AREA AND SEX, JULY 1989 AND SEPTEMBER 1989

FUNCTIONAL AREA (All Types of Employees)	NUMBER OFFERS	AVERAGE \$ OFFERS JULY 1989		
	JULY 1989	TOTAL	MEN	WOMEN
MARKETING				
Advertising	57	19,468	20,248	19,108
Brand/Product Management	261	23,621	24,741	22,221
Buyer/Merchandising	481	21,952	22,727	21,459
Market Research	103	24,526	25,775	22,958
Sales	1,830	23,153	23,651	22,246
PUBLIC ADMINISTRATION				
Executive, Legislative & General	42	19,205	19,049	19,275
Finance, Taxation, Monetary Policy	59	22,186	23,074	21,487
Economic Programs	18	20,732	21,010	20,175
Law Enforcement	56	20,918	20,776	21,107
Military	130	21,625	21,804	20,694
National Security	17	25,475	26,398	22,475
Urban/Regional Planning	21	22,589	23,222	21,321
SOCIAL SERVICES				
Administration	129	21,085	23,209	19,827
Counseling	63	17,404	18,560	16,942
Fundraising/Development	6	18,983	22,200	17,375
Social Work	62	16,489	17,826	15,852
OTHER FUNCTIONAL AREAS				
Actuarial	88	28,714	28,192	29,286
Agricultural/Natural Resources	106	21,763	22,233	20,068
Architecture	33	23,041	23,512	21,570
Consulting	970	28,157	28,587	27,401
Human Resources/Industrial Relations	175	22,531	23,965	21,598
Management Trainee	1,959	22,148	22,685	21,471
Mathematician/Statistician	42	26,141	25,642	26,744
Nurses/Personal Care	223	24,831	24,613	24,841
Other Health-Related	259	27,725	30,039	26,385
Paralegal	26	19,632	21,562	18,774
Performing Arts (Entertainment)	10	14,964	15,204	14,000
Research (Nontechnical)	31	22,746	22,918	22,473
Research (Technical)	46	20,949	22,157	19,841
Teaching	622	18,909	19,000	18,882

Source: The College Placement Council, *CPC Salary Survey - A Study of 1988-89 Beginning Offers*, July 1989

TABLE 4

**NUMBER AND AVERAGE STARTING SALARY OFFERS TO INEXPERIENCED MASTER'S
DEGREE CANDIDATES BY CURRICULUM, JULY 1989 AND SEPTEMBER 1988**

CURRICULUM	NUMBER OF OFFERS	AVERAGE \$ OFFERS		PERCENT CHANGE IN \$ OFFERS
	JULY 1989	JULY 1989	SEPT. 1988	SEPT. 1988
BUSINESS				
Accounting	348	\$28,874	\$27,468	5.1
MBA-Nontechnical Undergraduate 1 year or less	645	33,903	33,468	1.3
1 to 2 years	438	42,419	40,632	4.4
2 to 4 years	499	43,883	41,952	4.6
Over 4 years	401	44,549	43,128	3.3
MBA-Technical Undergraduate 1 year or less	180	38,847	38,388	1.2
1 to 2 years	129	44,590	43,152	3.3
2 to 4 years	240	47,967	44,028	8.9
Over 4 years	176	49,024	45,456	7.8
MS-Business	48	32,979	31,596	4.4
Distribution Management	1	30,900	*	*
Economics & Finance	165	34,661	*	*
Labor Industrial Relations (Incl. Human Resources)	31	31,883	33,312	-4.3
Management Information Systems	38	31,865	30,972	2.9
Marketing/Marketing Management	60	34,462	*	*
EDUCATION				
Education Administration	12	23,878	*	*
Elementary Education	17	21,694	*	*
Special Education	16	21,823	*	*
HUMANITIES AND SOCIAL SCIENCES				
Foreign Languages	2	18,054	*	*
Letters (incl. English Literature)	5	25,200	*	*
Visual & Performing Arts	14	19,945	*	*
History	4	19,482	*	*
Political Science/Government	5	28,541	*	*
Psychology	18	23,717	*	*
Sociology	5	24,272	*	*
Social Sciences	9	23,060	*	*

* No historic data available

+ Not Computed for fewer than 20 offers.

Source: The College Placement Council, *CPC Salary Survey - A Study of 1988-89 Beginning Offers*, July 1989

TABLE 4 (continued)

NUMBER AND AVERAGE STARTING SALARY OFFERS TO INEXPERIENCED MASTER'S DEGREE CANDIDATES BY CURRICULUM, JULY 1989 AND SEPTEMBER 1988

CURRICULUM	NUMBER OF OFFERS	AVERAGE \$ OFFERS		PERCENT CHANGE IN \$ OFFERS
		JULY 1989	SEPT. 1988	SEPT. 1988
COMMUNICATIONS Communications	3	26,000	*	*
Journalism	4	23,050	*	*
ENGINEERING Aerospace & Aeronautical	70	34,115	34,452	-1.0
Bioengineering & Biomedical	11	34,930	41,004	*
Chemical	145	36,131	34,296	5.3
Civil	154	30,723	30,396	1.1
Computer	79	37,183	*	*
Electrical	505	36,435	*	*
Industrial	74	34,576	33,756	2.4
Mechanical	388	35,260	34,116	3.4
Metallurgical	66	34,923	34,080	2.5
Mining & Mineral	12	31,612	*	*
Nuclear	9	34,024	32,856	+
Petroleum	23	38,475	*	+
SCIENCES Agricultural & Natural Resources	3	23,600	*	*
Architectural & Environment Design	2	23,500	*	*
Biological	5	25,063	21,876	+
Chemistry	36	32,157	31,572	1.9
Computer Science	188	35,823	34,560	3.7
Geological Sciences	58	30,473	29,808	2.2
Mathematics	25	31,498	29,640	6.3
Physics	10	29,889	34,728	+
Polymer	6	34,137	*	*
HEALTH SCIENCES Allied Health	19	28,016	*	*
Health Sciences	14	21,883	*	*
Nursing	7	25,806	*	*

*No historic data available. + Not Computed for fewer than 20 offers.

Source: The College Placement Council, *CPC Salary Survey - A Study of 1988-89
Beginning Offers*, July 1989

TABLE 5

**NUMBER AND AVERAGE STARTING SALARY OFFERS TO DOCTORAL DEGREE
CANDIDATES BY CURRICULUM, JULY 1989 AND SEPTEMBER 1988**

CURRICULUM	Number Offers	Average \$ Offers	
	July 1989	July 1989	September 1988
BUSINESS			
Business Administration & Management	3	\$50,333	*
Computer & Information Sci.	16	50,049	\$50,712
EDUCATION			
Education Administration.	14	40,221	*
HUMANITIES & SOCIAL SCIENCES			
English	4	24,500	*
Psychology	10	33,615	*
ENGINEERING			
Aerospace	9	50,776	47,304
Chemical	157	47,853	45,888
Civil	7	37,214	38,160
Computer	5	53,380	*
Electrical	45	48,666	*
Mechanical	15	45,893	45,888
Metallurgical	17	49,214	45,780
SCIENCES			
Chemistry	157	43,215	41,292
Geology & Geological Sciences	9	34,108	*
Mathematics	4	37,500	40,668
Physics	18	42,632	42,480
Polymer	13	44,213	41,244

*No Historic Data Available

TABLE 6

NUMBER AND MONTHLY STARTING SALARIES OF INEXPERIENCED COLLEGE GRADUATES WITH BACHELOR'S DEGREES BY DISCIPLINE, 1988

DISCIPLINE	Number	Mean	Median
All Engineering	1,771	\$2,427	\$2,500
Aeronautical Engineering	7	2,318	2,319
Agricultural Engineering	12	1,855	1,854
Chemical Engineering	53	2,464	2,500
Civil Engineering	103	2,158	2,042
Computer Science (Engineering Related)	108	2,374	2,417
Electrical Engineering	920	2,491	2,500
Engineering Science	14	2,346	2,433
Engineering Technology	6	2,226	2,271
Industrial Engineering	77	2,353	2,367
Mechanical Engineering	299	2,398	2,409
Metallurgical Engineering	14	2,344	2,360
Biological Sciences	33	1,730	1,600
Chemistry	37	2,009	2,167
Computer Science (Sci./tech.-Related)	1,318	2,406	2,500
Computer Science (Business- Related)	484	1,874	1,916
Geology	3	1,968	2,083
Mathematics-Statistics	103	2,174	2,166
Physics	9	2,408	2,467
Accounting	265	1,830	1,900
Agriculture	92	1,675	1,708
Bus., Economics & Finance	1,454	1,839	1,916
Education	18	1,713	1,750
Industrial Management	11	2,060	2,100
Liberal Arts	706	1,804	1,907
Marketing	570	1,861	1,760
All Technical (Non-Eng.)	1,631	2,343	2,500
All Non-Technical	3,774	1,837	1,856

TABLE 7

NUMBER AND MONTHLY STARTING SALARIES OF INEXPERIENCED COLLEGE GRADUATES WITH MASTER'S DEGREES (EXCLUDING MBA) BY DISCIPLINE, 1988

DISCIPLINE	Number	Mean	Median
All Engineering	196	\$2,771	\$2,800
Chemical Engineering	11	2,553	2,450
Civil Engineering	9	2,713	2,833
Electrical Engineering	84	2,831	2,800
Mechanical Engineering	32	2,756	2,795
Computer Science (Eng. - Related)	21	2,756	2,800
Computer Sci. (Sci. / Tech Related)	212	2,765	2,800
Computer Sci. (Business Related)	9	2,526	2,333
Mathematics - Statistics	12	2,736	2,800
Physics	6	2,761	2,800
Biological Sciences	5	2,157	2,267
Chemistry	5	2,294	2,367
Business, Economics & Finances	47	3,016	3,134
Liberal Arts	7	2,559	2,333
All Technical (Non-Engineering)	267	2,743	2,800
All Non-Technical	104	2,780	2,856

TABLE 8

NUMBER AND MONTHLY STARTING SALARIES OF INEXPERIENCED COLLEGE GRADUATES WITH MBA DEGREES AND UNDERGRADUATE DEGREES BY DISCIPLINE, 1988

DISCIPLINE	Number	Mean	Median
All Engineering	53	\$2,839	\$2,800
Accounting	17	2,813	2,666
Business, Economics & Finance	83	3,456	3,655
Computer Science (1)	26	2,800	2,800
Marketing	12	3,167	3,042
All Technical (Non-Eng.)	57	2,854	2,800
All Non-Technical	165	3,158	3,300
Mathematics - Statistics	12	2,941	2,800
Liberal Arts	35	2,944	2,333
Electrical Engineering	21	2,859	2,800

(1) Sci.-Tech-Related

SOURCE: Abbott, Langer & Associates, *College Recruiting Report*, 1988

TABLE 9

NUMBER AND MONTHLY STARTING SALARIES OF INEXPERIENCED COLLEGE GRADUATES WITH DOCTORAL DEGREES BY DISCIPLINE, 1988

DISCIPLINE	Number	Mean	Median
All Engineering	7	\$3,436	\$3,333
Chemistry	4	3,038	3,017
All Technical (Non-Engineering)	21	3,224	3,333

TABLE 10

NUMBER AND MONTHLY STARTING SALARIES OF INEXPERIENCED COLLEGE GRADUATES WITH JUNIOR/COMMUNITY COLLEGE DEGREES BY DISCIPLINE, 1988

DISCIPLINE	Number	Mean	Median
All Engineering-Related	79	\$1,710	\$1,707
Engineering Technology	22	1,744	1,875
Electronic Technology	49	1,689	1,707
Mechanical Technology	8	1,740	1,735
Biological Sciences	8	1,348	1,117
Computer Programming	25	1,710	1,750
Data Processing	6	1,613	1,624
Accounting	7	1,449	1,396
Secretarial Science	24	1,276	1,300
All Technical- Related	48	1,613	1,729
All Non-Technical - Related	33	1,316	1,300

SOURCE: Abbott, Langer, & Associates, *College Recruiting Report, 1988*

TABLE 11

**MEDIAN MONTHLY STARTING SALARIES OF INEXPERIENCED BACHELOR'S GRADUATES
(NON-ENGINEERING) BY TYPE OF INDUSTRY AND DISCIPLINE, 1988**

TYPE OF INDUSTRY	Biological Sciences	Chemistry	Computer Science*	Math./ Stats.	Accounting	Agri- cultural	Bus. Econ. & Finance	Computer Science**	Liberal Arts	Marketing	All Tech- nical (Non- Eng'r.)	All Non- Technical
Total	\$1,600	\$2,167	\$2,500	\$2,166	\$1,900	\$1,708	\$1,916	\$1,916	\$1,907	\$1,870	\$2,500	\$1,856
All Manufacturing/ Extractive Firms	1,600	2,239	2,500	2,500	1,916	1,708	1,916	1,916	1,907	1,930	2,500	1,916
All Non-Manufacturing Firms	1,600	1,556	1,975	2,166	1,764	1,667	1,700	1,760	1,792	1,750	1,975	1,756
Apparel & Textile Product Mfg.					1,750		1,750	1,667	1,750	1,668	1,667	1,750
Banking & Other Financial Firms			1,750		1,666		1,583	1,625	2,000	1,460	1,750	1,625
Chemical / Pharmaceutical / Plastic Rubber Product Mfg.	2,183	2,239			1,855		1,906				2,183	1,906
Communications Services					1,833		1,802		1,200			1,200
Computer / Data Processing Services			2,250	1,540	2,000		2,100	1,900	1,511	1,870	2,250	1,900
Construction & Engineering Firms									2,083	1,753		
Electrical / Aerospace / Aircraft / Electronics Product Mfg.			2,500	2,500	1,916		1,916	1,916	1,916		2,500	1,916
Fabricated Metal Product Mfg.				2,170			1,625				2,170	1,625
Food/Beverage/Tobacco/ Product Mfg.	1,608	1,875			1,985	1,708	1,959	2,220	2,700	2,700	1,962	
Insurance Firms			1,975	2,166	1,764		1,756	1,800	1,748		2,098	
Merchandising Firms (Retail) & Wholesale				1,580	1,458	1,667	1,700	1,760	2,083	1,750	1,665	
Petroleum/Natural Gas Firms					1,900			2,300		1,900		
Printers / Publishers									1,085		1,625	
Research Organizations	1,180		2,058			1,180					2,017	
Transportation Services			2,000				2,030				2,000	
Utilities			1,700				1,755	2,050	1,792	1,967	1,950	

* Science/Tech.-Related.

** Business Related.

NOTE: Blanks indicate fewer than five cases reported.

SOURCE: Abbott, Langer, & Associates, *College Recruiting Report, 1989*

TABLE 12

MEDIAN MONTHLY STARTING SALARIES OF INEXPERIENCED BACHELOR'S GRADUATES IN ENGINEERING
BY TYPE OF INDUSTRY AND SUBDISCIPLINE, 1988

TYPE OF INDUSTRY	ALL	SUBDISCIPLINE IN ENGINEERING						
		Agri- cultural	Chemical	Civil	Electrical	Industrial	Mechanical	Computer Science*
TOTAL	\$2,500	\$1,854	\$2,500	\$2,042	\$2,500	\$2,367	\$2,409	\$2,417
All Mfg./Extractive Firms	2,500	2,306	2,500	2,323	2,500	2,397	2,360	2,417
All Non-Mfg. Firms	2,400	1,600	2,300	2,042	2,488	2,367	2,458	
Chemical / Pharmaceutical / Plastic / Rubber Product Mfg.	2,239		2,239					
Communications Services	2,235							
Computer / Data Processing Services	2,191							
Construction & Engineering Firms	2,310			2,042	2,585		2,585	
Electrical / Aerospace / Aircraft / Electronics Product Mfg.	2,500		2,500		2,500	2,360	2,500	2,500
Fabricated Metal Product Mfg.	2,326			2,323	2,437		2,326	2,311
Food / Beverage / Tobacco Prod. Mfg.	2,459	2,306					2,292	
Insurance Firms	2,292							
Printers / Publishers	2,222**							
Research Organizations	2,271				2,271			
Utilities	2,450				2,450		2,458	
Petroleum / Natural Gas-- Extracting / Refining	2,708		2,708					

*Engineering-Related. **Only four respondents. NOTE: Blanks indicate fewer than five cases reported.

SOURCE: *Northwestern Endicott Lindquist Report, 1989, Forty-Third Annual Report*, by Victor R. Lindquist

TABLE 13

**NUMBER AND AVERAGE MONTHLY SALARY OFFERS OF ENGINEERING GRADUATES
BY SUBDISCIPLINE OF ENGINEERING & DEGREE LEVEL, 1989**

SUBDISCIPLINE	BACHELOR'S		MASTER'S		DOCTORATE	
	1989 Projected Hiring	Salary	1989 Projected Hiring	Salary	1989 Projected Hiring	Salary
Aerospace Engineering	174	\$2,488		\$		\$
Chemical Engineering	1,279	2,717	203	2,961	157	3,988
Civil Engineering	150	2,503	44	2,897		
Electrical/Computer Science	3,834	2,567	627	3,033	90	4,329
Industrial Engineering	613	2,486	34	2,944		
Mechanical Engineering	2,644	2,593	434	2,961	30	3,936
Metals/Materials	78	2,485	37	2,954	14	4,040
Nuclear Engineering	38	2,509	49	2,931		
Petroleum Engineering	79	2,929				
Engineering Technology	167	2,418				

SOURCE: *Northwestern Endicott Linquist Report, 1989*, Forty-Third Annual Report, By Victor P. Linquist.

TABLE 14

NUMBER AND AVERAGE MONTHLY STARTING SALARIES FOR NEW GRADUATES BY FIELD AND DEGREE,
1988 AND 1989

FIELD	BACHELOR'S DEGREE				MASTER'S DEGREE			
	No. to be hired in 1989	1988	1989	Percent Increase	No. to be hired in 1989	1988	1989	Percent Increase
Engineering (125)	11,134	\$2,488	\$2,550	2.5	1,644	\$2,878	\$2,961	2.9
Accounting (121)	8,715	2,095	2,214	5.7	904	2,507	2,608	4.0
Sales-Marketing (82)	1,897	1,957	2,131	8.9				
Business Administration (82)	3,095	1,990	2,031	2.1				
Liberal Arts (68)	1,458	1,959	2,029	3.7				
Chemistry (31)	323	2,259	2,374	5.1				
Math or Statistics (32)	420	2,129	2,195	3.1				
Economics or Finance (50)	1,609	1,994	2,111	5.8				
Computer Science (105)	4,811	2,242	2,313	3.2				
Other Fields (50)	1,609	1,976	2,106	6.6	311	2,549	2,698	5.8
MBA with Technical BS					755	2,942	3,024	2.8
MBA with Non-Technical BA					1,240	3,161	3,272	3.5
Other Technical Fields					679	2,714	2,777	2.3

NOTE: Number in parenthesis indicates companies hiring bachelor's level graduates in 1989.

TABLE 15

ESTIMATED AVERAGE STARTING SALARIES & ESTIMATED % CHANGE FOR
BACCALAUREATE GRADUATES BY ACADEMIC MAJOR, 1989-90

ACADEMIC MAJOR	Salary	% Change
Chemical Engineering	33,380	3.0
Mechanical Engineering	32,256	3.2
Electrical Engineering	\$32,107	3.0
Computer Science	31,389	2.7
Industrial Engineering	30,557	2.5
Physics	28,777	1.7
Civil Engineering	27,707	2.2
Nursing	27,358	1.4
Accounting	27,051	2.9
Chemistry	25,938	2.4
Mathematics	24,968	1.7
Financial Administration	24,359	2.2
Marketing/Sales	24,100	2.3
Geology	24,080	1.5
Agriculture	22,802	1.4
General Business Administration	21,845	2.7
Social Science	21,310	1.4
Personnel Administration	21,033	2.1
Telecommunications	20,880	1.3
Communications	20,735	1.6
Education	20,650	2.3
Hotel, Restaurant & Institutional Management	20,553	1.7
Liberal Arts/Arts & Letters	20,244	1.6
Advertising	19,662	1.3
Retailing	18,909	1.4
Natural Resources	18,840	1.2
Journalism	18,255	1.3
Human Ecology/Home Economics	18,157	1.1
ALL MAJORS		
Bachelor's	25,256	3.3
Master's	33,740	3.3
MBA's	39,840	3.1
Ph.D.'s	37,111	2.4

SOURCE: *CHEMICAL AND ENGINEERING NEWS*, American Chemical Society, November 5, 1962; October 28, 1963; November 9, 1964; October 18, 1965; October 23, 1967; October 28, 1985; 1979 Survey Report, *Starting Salaries and Employment Status of Chemistry and Chemical Engineering Graduates*; & *Starting Salaries* 1980, 1981, 1982, 1983, 1984, 1985, 1986, 1987, 1988, and 1989

TABLE 16

**MEDIAN MONTHLY STARTING SALARIES FOR MEN AND WOMEN CHEMISTS*,
BACHELOR'S LEVEL, 1961-1989**

Y E A R	M E N	W O M E N	% BELOW M E N
1961	\$500	\$433	13.4
1962	525	450	14.3
1963	550	473	14.0
1964	560	480	14.3
1965	590	499	15.4
1966	625	550	12.0
1967	660	600	10.0
1968	712	625	12.2
1969	750	702	6.4
1970	758	644	15.0
1971	691	650	5.9
1972	708	650	8.2
1973	750	708	5.6
1974	816	833	+ 2.1
1975	833	801	3.8
1976	900	908	+ 0.9
1977	1,000	1,000	0.0
1978	1,042	1,083	+ 3.9
1979	1,200	1,233	+ 2.8
1980	1,250	1,250	0.0
1981	1,417	1,541	+ 8.8
1982	1,417	1,417	0.0
1983	1,417	1,333	5.9
1984	1,583	1,542	2.6
1985	1,667	1,500	10.0
1986	1,583	1,500	5.2
1987	1,683	1,633	3.0
1988	1,875	1,750	6.7
1989	1,917	1,917	0.0

*Includes only members of the American Chemical Society.

TABLE 17

NUMBER MEDIAN AND MEAN STARTING SALARIES OF INEXPERIENCED CHEMISTS* EMPLOYED FULL-TIME BY
HIGHEST DEGREE EARNED, TYPE OF EMPLOYER AND SEX, 1989

TYPE OF EMPLOYER	M E N			W O M E N		
	B.S.	M.S.	PH.D.	B.S.	M.S.	PH.D.
PRIVATE INDUSTRY	(131)	(44)	(72)	(96)	(17)	(37)
Median	\$24,000	\$32,000	\$43,260	\$25,000	\$29,000	\$42,600
Mean	24,523	32,290	42,329	24,629	28,153	42,786
COLLEGE OR UNIVERSITY	(14)	(3)	(16)	(11)	(4)	(10)
Median	19,500	23,000	26,500	18,512	21,600	27,000
Mean	19,069	24,333	28,086	17,936	22,967	26,150
HIGH SCHOOL	(3)			(7)		
Median	19,000			21,000		
Mean	15,333			20,333		
FEDERAL GOVERNMENT	(5)	(3)	(4)	(6)		
Median	19,500	31,980	40,500	22,423		
Mean	21,360	34,493	35,750	23,041		
HOSPITAL OR LAB	(10)			(15)		(3)
Median	18,500			19,000		21,500
Mean	18,458			18,890		22,500
OTHER	(3)		(3)	(5)		
Median	24,000		32,500	20,600		
Mean	24,333		32,500	19,120		
TOTAL	(172)	(53)	(97)	(145)	(26)	(53)
Median	23,000	31,790	42,000	23,000	24,000	41,570
Mean	23,365	31,595	39,182	22,932	26,260	38,075

*Includes only members of the American Chemical Society

NOTE: Blanks indicate insufficient responses.

SOURCE: American Chemical Society, *Starting Salaries 1989*

TABLE 18

MEDIAN AND MEAN ANNUAL STARTING SALARIES OF INEXPERIENCED GRADUATE CHEMISTS* BY DEGREE SPECIALTY, 1989

DEGREE SPECIALTY	M. S.		Ph. D.	
	Median	Mean	Median	Mean
Analytical	\$30,000	\$29,431	\$41,000	\$38,669
Inorganic	29,000	27,546	42,450	40,136
Organic	31,750	30,626	42,750	40,466
Physical	34,300	31,300	38,000	35,491
Biochemistry	30,000	31,389	30,750	31,083
Polymer	30,570	29,035		
TOTAL	30,300	29,863	42,000	38,782

* Includes only members of the American Chemical Society

NOTE: Blanks indicate too few respondents.

TABLE 19

MEDIAN ANNUAL STARTING SALARIES OF CHEMISTS* AND CHEMICAL ENGINEERS* BY DEGREE LEVEL AND LENGTH OF WORK EXPERIENCE, 1989

DEGREE LEVEL	LENGTH OF WORK EXPERIENCE			
	<12 Months	12-36 Months	>36 Months	Total
CHEMISTS				
B. S.	\$23,000	\$24,116	\$29,950	\$24,000
M. S.	30,300	29,600	34,500	31,300
Ph. D.	42,000	42,500	43,250	42,000
CHEMICAL ENGINEERS				
B. S.	33,000	33,500	34,160	33,000
M. S.	36,000	36,300	38,500	36,500
Ph. D.	47,000	47,000	46,500	47,000

* Includes only members of the American Chemical Society

TABLE 20

MEDIAN AND MEAN ANNUAL STARTING SALARIES OF INEXPERIENCED CHEMISTS AND CHEMICAL ENGINEERS* EMPLOYED FULL-TIME BY HIGHEST DEGREE EARNED AND SEX, 1989

HIGHEST DEGREE EARNED	CHEMISTS				CHEMICAL ENGINEERS			
	Men		Women		Men		Women	
	Median	Mean	Median	Mean	Median	Mean	Median	Mean
Bachelor's	\$23,000	\$23,365	\$23,000	\$22,932	\$33,000	\$32,241	\$33,000	\$32,189
Master's	31,790	31,595	24,000	26,260	36,000	35,660	36,000	35,828
Doctorate	42,000	39,182	41,570	38,075	47,000	45,919	45,500	44,998

* Includes only members of the American Chemical Society

TABLE 21

NUMBER MEDIAN AND MEAN STARTING SALARIES OF INEXPERIENCED CHEMISTS* AND CHEMICAL ENGINEERS
EMPLOYED FULL-TIME BY HIGHEST DEGREE EARNED, AND TYPE OF EMPLOYER, 1989

TYPE OF EMPLOYER	CHEMISTS			CHEMICAL ENGINEERS		
	B.S.	M.S.	PH.D.	B.S.	M.S.	PH.D.
PRIVATE INDUSTRY	(227)	(61)	(109)	(360)	(56)	(60)
Median	\$25,000	\$31,550	\$42,950	\$33,000	\$36,050	\$47,500
Mean	24,568	31,118	42,487	32,513	36,133	46,827
COLLEGE OR UNIVERSITY	(25)	(7)	(26)			(6)
Median	18,730	22,300	27,000			41,000
Mean	18,571	23,650	27,342			42,533
HIGH SCHOOL	(10)					
Median	20,000					
Mean	18,667					
FEDERAL GOVERNMENT	(11)	(4)	(5)	(7)	(3)	(4)
Median	20,000	27,990	40,000	25,885	32,000	38,500
Mean	22,277	31,870	33,400	26,362	32,166	38,500
STATE/LOCAL GOVERNMENT	(5)					
Median	20,100					
Mean	21,327					
HOSPITAL OR LAB	(25)		(3)			
Median	19,000		21,500			
Mean	18,717		22,500			
OTHER	(8)		(4)	(4)		
Median	22,300		38,000	31,810		
Mean	21,075		38,867	31,805		
TOTAL	(317)	(79)	(150)	(378)	(63)	(72)
Median	23,000	30,300	42,000	33,000	36,000	47,000
Mean	23,167	29,863	38,782	32,223	35,697	45,802

*Includes only members of the American Chemical Society

NOTE: Blanks indicate insufficient responses.

SOURCE: American Chemical Society, *Starting Salaries 1989*

TABLE 22

MEDIAN AND MEAN STARTING SALARIES OF CHEMISTS* EMPLOYED FULL-TIME
BY HIGHEST DEGREE AND WORK FUNCTION, 1989

WORK FUNCTION	HIGHEST DEGREE		
	B.S.	M.S.	PH.D.
TEACHING			
Median	\$20,000	\$21,000	\$27,500
Mean	18,800	22,300	29,112
MANAGEMENT OR ADMINISTRATION			
Median	26,000	33,000	
Mean	25,653	34,833	
BASIC RESEARCH			
Median	20,500	31,000	40,750
Mean	22,646	31,563	36,379
APPLIED RESEARCH			
Median	24,000	31,600	42,500
Mean	24,430	30,871	41,216
PRODUCTION			
Median	23,000	28,000	
Mean	23,185	27,149	
OTHER			
Median	21,000	29,000	
Mean	21,636	27,520	
TOTAL			
Median	23,000	30,300	42,000
Mean	23,167	29,863	38,782

*Includes only members of the American Chemical Society

NOTE: Blanks indicate insufficient responses.

TABLE 23

**MEDIAN AND MEAN STARTING SALARIES OF CHEMISTS* EMPLOYED
FULL-TIME BY HIGHEST DEGREE AND GEOGRAPHIC REGION, 1989**

GEOGRAPHIC REGION	HIGHEST DEGREE		
	B.S.	M.S.	PH.D.
PACIFIC			
Median	\$25,000	\$21,300	\$42,250
Mean	25,378	26,100	41,063
MOUNTAIN			
Median	19,150	26,790	41,000
Mean	20,717	26,830	41,600
WEST NORTH CENTRAL			
Median	20,000	32,700	40,000
Mean	19,911	32,123	33,014
WEST SOUTH CENTRAL			
Median	23,000	32,000	44,000
Mean	23,201	29,333	41,339
EAST NORTH CENTRAL			
Median	24,000	31,000	42,750
Mean	23,650	30,630	39,505
EAST SOUTH CENTRAL			
Median	20,000		40,075
Mean	20,977		39,638
MIDDLE ATLANTIC			
Median	25,700	32,000	42,000
Mean	24,969	31,629	38,863
SOUTH ATLANTIC			
Median	20,390	27,600	42,000
Mean	21,470	27,289	36,098
NEW ENGLAND			
Median	22,500	30,000	42,000
Mean	23,094	31,250	39,100
TOTAL			
Median	23,000	30,650	42,000
Mean	23,154	29,966	38,767

*Includes only members of the American Chemical Society

NOTE: Blanks indicate insufficient responses.

TABLE 24

COMPARISON OF MEDIAN STARTING SALARIES OF INDUSTRIAL AND ALL CHEMISTS AND CHEMICAL ENGINEERS* EMPLOYED FULL-TIME BY DEGREE LEVEL AND SEX, 1989

TYPE OF EMPLOYER	CHEMISTS			CHEMICAL ENGINEERS		
	B.S.	M.S.	PH.D.	B.S.	M.S.	PH.D.
ALL EMPLOYERS	\$23,000	\$30,300	\$42,000	\$33,000	\$36,000	\$47,000
Men	23,000	31,790	42,000	33,000	36,000	47,000
Women	23,000	24,000	41,570	33,000	36,000	45,500
INDUSTRIAL EMPLOYERS	25,000	31,550	42,950	33,000	36,050	47,500
Men	24,000	32,000	43,260	33,000	36,000	47,600
Women	25,000	29,000	42,600	33,000	36,650	47,400

*Includes only members of the American Chemical Society.

NOTE: Blanks indicate insufficient responses.

SOURCE: American Mathematical Society, *NOTICES*, Vol. 36, No. 9, November 1989

TABLE 25

MEDIAN BEGINNING SALARIES IN MATHEMATICS FOR PH.D.'S BY TYPE OF EMPLOYER OR ACTIVITY AND SEX, 1989 AND 1988

TYPE OF EMPLOYER	MEN		WOMEN	
	1989	1988	1989	1988
Teaching or Teaching & Research (9 Months)	\$30,500	\$29,000	\$31,000	\$29,900
Teaching or Teaching & Research (12 Months)	31,500	33,000	31,400	35,000
Research (9 Months)	27,000	28,000		
Research (12 Months)	30,000	28,000	35,000	33,000
Business & Industry (12 Months)	46,400	43,100	47,000	45,400
Government (12 Months)	37,800	33,200		40,500

NOTE: Blanks indicate that not enough returns were received to warrant including the figures.

TABLE 26

MEDIAN BEGINNING SALARIES IN MATHEMATICS FOR NEW PH.D.'S BY TYPE OF EMPLOYER, 1983-1989

TYPE OF EMPLOYER	1983	1984	1985	1987	1988	1989
Teaching or Teaching & Research (9 Months)	\$21,700	\$23,000	\$25,000	\$28,000	\$29,300	\$31,000
Research (9 Months)	20,000	20,500	23,500	30,000	28,000	27,000
Teaching or Teaching & Research (12 Months)	26,000	26,000	27,300	31,500	33,000	31,500
Research (12 Months)	26,200	26,100	34,200	28,700	29,500	31,700
Business & Industry (12 Months)	37,500	37,800	40,000	45,100	44,000	46,400
Government (12 Months)	32,200	31,500	32,500	36,000	34,300	37,800

SOURCE: Robert Half International, *Salary Survey 1990, Accounting & Finance, Banking, Information Systems, 1989*

TABLE 27

AVERAGE STARTING SALARY RANGES OF DATA PROCESSING PERSONNEL IN LARGE INSTALLATIONS* BY POSITION, 1989 AND 1990

POSITION	SALARY RANGES		PERCENT INCREASE
	1989	1990	
DATA PROCESSING LARGE INSTALLATIONS			
Vice President, MIS	\$75,000-107,000	\$79,000-113,000	+ 5.5
MIS Director	61,500-83,500	65,000-87,000	4.8
SYSTEMS & PROGRAMMING			
Senior Manager	54,500-70,000	58,000-77,000	8.4
Manager	50,000-62,000	52,000-65,000	4.5
Senior Project Manager	45,500-57,000	48,000-62,000	7.3
Project Manager	41,000-53,000	44,000-56,000	6.4
Senior Project Leader	40,000-50,000	42,000-53,000	5.6
Project Leader	37,500-48,000	39,500-50,000	4.7
Systems Analyst	34,000-43,500	35,500-45,500	4.5
Programmer Analyst	29,500-38,500	30,500-40,000	3.7
Programmer	25,000-32,000	25,500-33,000	2.6
TECHNICAL SERVICES			
Manager	47,500-62,000	50,000-65,500	5.5
Systems Programmer	38,000-51,000	40,000-53,500	5.1
CASE Tool Specialist	35,000-50,000	38,000-53,000	7.1
DATA BASE SUPPORT			
Data Base Manager	52,000-65,000	53,500-67,500	3.4
Data Base Administrator	42,000-53,000	43,000-54,000	2.1
Data Base Analyst	35,000-46,000	36,500-47,500	3.7
TELECOMMUNICATIONS			
Manager	47,000-61,000	50,000-64,500	6.0
Telecommunications Specialist	36,000-49,000	38,000-52,000	5.9
OPERATIONS			
Senior Manager	42,000-54,500	44,500-58,500	6.7
Manager	37,000-48,000	38,000-48,000	1.2
Shift Supervisor	28,000-36,000	29,000-37,000	3.1
Operator	19,000-27,000	20,000-28,000	4.3
Input/Output Clerk	16,000-21,000	17,000-22,000	5.4
Data Entry	14,000-17,500	14,500-18,000	3.2
EDP AUDIT			
Manager	44,000-55,000	45,000-59,000	5.1
Senior	35,000-45,000	36,000-46,000	2.5
Staff	28,000-35,000	28,000-36,500	2.4

*Employs over 25 d.p. professionals.

SOURCE: Robert Half International, Inc., *Salary Survey 1990 - Accounting & Finance, Banking, Information Systems*

TABLE 28

AVERAGE STARTING SALARY RANGES OF DATA PROCESSING PERSONNEL IN OCCUPATIONS NOT DIRECTLY RELATED TO INSTALLATION SIZE BY JOB POSITION, 1989 AND 1990

JOB POSITION	SALARY RANGES		PERCENT INCREASE
	1989	1990	
CONSULTING			
Manager	\$48,500-68,000	\$51,500-70,500	4.7
Senior	39,500-51,000	41,500-55,500	7.2
Associate	30,000-40,500	32,000-44,000	7.8
EDP EDUCATION			
Manager	37,500-49,000	39,000-51,000	4.0
Curriculum Developer	29,000-38,000	30,500-40,000	5.2
Instructor	26,000-36,000	27,500-37,500	4.0
SOFTWARE DEVELOPMENT			
Product Manager	47,000-69,500	49,000-73,000	4.7
Software Engineer	35,000-48,500	36,000-50,000	3.0
Artificial Intelligence Specialist	35,000-60,000	36,000-65,000	6.3
PERSONAL COMPUTERS (PCs)			
Systems Developer	30,000-42,000	30,000-45,000	4.2
LAN/WAN Specialist	32,000-42,000	32,000-45,000	4.1

* Employing fewer than 25 d. p. professionals.

TABLE 29

AVERAGE STARTING SALARY RANGES OF DATA PROCESSING PERSONNEL IN SMALL* INSTALLATIONS BY POSITION, 1989 AND 1990

POSITION	SALARY RANGES		PERCENT INCREASE
	1989	1990	
ADMINISTRATION			
MIS Director	\$41,000-56,000	\$43,500-61,000	7.7
SYSTEMS & PROGRAMMING			
Manager	37,000-50,000	39,000-53,000	5.7
Project Manager	33,000-42,000	36,000-46,000	9.3
Project Leader	31,000-40,000	33,000-42,000	5.6
Systems Analyst	29,000-37,000	30,000-38,500	3.8
Programmer Analyst	25,000-33,500	26,000-35,000	4.3
Programmer	20,500-27,000	21,500-29,000	6.3
OPERATIONS			
Manager	26,000-35,000	27,000-36,000	3.3
Operator	16,500-22,000	17,000-23,500	5.2
Input/Output Clerk	14,500-18,000	15,000-19,000	4.6
Data Entry	13,000-16,000	13,500-17,000	5.2

* Employing fewer than 25 d. p. professionals.

SOURCE: American Institute of Physics, *1987-88 Survey of Physics and Astronomy Bachelor's Degree Recipients*, AIP
Pub. R-211.21, April 1989.

TABLE 30

**DISTRIBUTION AND MEDIAN MONTHLY STARTING SALARIES OF PHYSICS BACHELOR'S
DEGREE RECIPIENTS BY TYPE OF EMPLOYER AND SEX, 1988**

TYPE OF EMPLOYER	MEN (449 Reported Salaries)		WOMEN (88 Reported Salaries)		TOTAL (537 Reported Salaries)	
	% Distribution by Employer	Median	% Distribution by Employer	Median	% Distribution by Employer	Median
Industry - Mfg.	28%	\$2,310	28%	\$2,380	28%	\$2,350
Industry - Service	24	2,060	27	1,920	25	2,060
High School	5	1,550	6	1,550	5	1,550
College or University	4	1,700	6	1,700	4	1,700
Government, Civilian	5	2,030	13	1,950	6	2,020
Government, Military	31	1,650	10	1,650	28	1,650
FFRC*	2	2,200	4	1,900	3	2,050
Other	1		6		1	
Total	100	1,925	100	2,020	100	1,930

* Federally Funded Research Center.

NOTE: Blanks indicate insufficient data.

SOURCE: American Institute of Physics, 1987-88 Graduate Student Survey, September 1989

TABLE 31

**MEDIAN MONTHLY STARTING SALARIES OF NEW PHYSICS GRADUATES BY
DEGREE LEVEL AND TYPE OF EMPLOYER, 1988**

TYPE OF EMPLOYER	BACHELOR'S	MASTER'S	PH. D.	
			Postdocs	Permanent Position
Secondary School	\$1,550	\$ *	\$	\$
Four-Year College	1,550	*	*	2,330
University	1,700	2,050	2,070	2,450
Industry	2,210	2,690	3,400	3,730
FFRC**	2,050	*	2,430	*
Government, Including Military	1,715	2,340	2,650	3,070
Other	*	*	2,030	*
ALL EMPLOYERS	1,930	2,600	2,150	3,400

** Federally Funded Research Centers.

SOURCE: American Geological Institute, *Geoscientific Employment and Hiring Survey*, 1989.

TABLE 32

**STARTING SALARIES OF INEXPERIENCED GEOLOGISTS BY TYPE OF EMPLOYER
AND DEGREE LEVEL, 1989**

TYPE OF EMPLOYER	DEGREE LEVEL		
	BA/BS	MA/MS	Ph. D.
Domestic Oil and Gas Industry	\$31,250	\$33,571	\$39,375
Domestic Mining and Minerals Industry	27,500	28,334	33,750
Federal Government	19,167	24,643	29,400
State Government	20,648	25,000	30,208
Research Institutions	20,000	20,000	32,500
DOE-Funded National Laboratories	30,000	32,500	37,500
Geoscientific Consulting Firms	23,500	27,500	34,167
Academia	18,864	20,527	29,643

SOURCE: The Hay Group, Prepared for the U.S. Department of Energy, 1989 Participant Report - National Compensation Survey of Research and Development Scientists and Engineers, May 1989

TABLE 33

NUMBER MEDIAN AND MEAN MONTHLY STARTING SALARIES OF 1989 GRADUATES EMPLOYED IN NONSUPERVISORY POSITIONS IN RESEARCH & DEVELOPMENT BY FIELD OF HIGHEST DEGREE

FIELD OF DEGREE	Number	Median	Mean
Engineering	574	\$2,591	\$2,523
Chemistry	41	2,157	2,123
Physics	20	2,718	2,673
Other Physical Sciences	6	2,151	2,070
Life Sciences - Other	10	2,051	2,144
Mathematics & Statistics	33	2,476	2,540
Computer Science	158	2,515	2,534

TABLE 34

NUMBER, MEDIAN AND MEAN MONTHLY STARTING SALARIES OF 1989 ENGINEERING BACHELOR'S DEGREE GRADUATES EMPLOYED IN NONSUPERVISORY POSITIONS IN RESEARCH AND DEVELOPMENT BY WORKING - AS - OCCUPATION

WORKING - AS - OCCUPATION	Number	Median	Mean
Aeronautical/Astronautical Engineering	48	\$2,601	\$2,603
Chemical Engineering	39	2,201	2,401
Electrical & Electronic Engineering	254	2,657	2,632
Materials Engineering	10	2,001	2,059
Mechanical Engineering	97	2,432	2,335
Nuclear & Reactor Engineering	76	2,601	2,486

SOURCE: U.S. Department of Labor, *Occupational Outlook Handbook*, 1988-89 Edition.

TABLE 35

STARTING SALARIES OF SCIENTISTS BY OCCUPATION, TYPE OF EMPLOYER AND HIGHEST DEGREE ATTAINED,
1986 AND 1987

OCCUPATION	ESTIMATED NUMBER EMPLOYED IN 1986	TYPE OF EMPLOYER					
		1986 Private Industry			1987 Federal Government		
		B.S.	M.S.	Ph. D.	B.S.	M.S.	Ph. D.
Engineers*	1,371,000	\$27,900	\$33,100	\$42,200	\$18,710-23,170	\$25,980	\$28,039
Mathematicians	20,000	24,400	30,600	39,500	14,822-18,358	22,458-27,172	27,172-32,567
Statisticians	18,000				14,822-18,358	22,458-27,172	27,172-32,567
Agricultural Scientists	28,000	19,200			14,822-18,358	18,358-22,458	27,172-32,567
Biological Scientists	61,000	19,070			14,822-18,358	18,358-22,458	27,172-32,567
Foresters & Conservationists	23,000				14,822	22,458	27,172-32,567
Geologists & Geophysists	44,000	19,200			14,822-18,358	18,358-22,458	27,172-32,567
Meteorologists	5,600				14,822-18,358	18,358-22,458	27,172-32,567
Chemists	86,000	23,400	28,000	36,400	14,822-18,358	22,458	27,172-32,567
Physicists	22,000		31,200	42,500	14,822-18,358	18,358-22,458	27,172-32,567
Accountants & Auditors	945,000	21,200	25,600		14,822	22,458	
Psychologists	110,000				14,822-18,358	22,458	27,172-32,567
Economists	37,000	22,400			14,822-18,358	22,458	27,172-32,567
Social Scientists	199,000	21,100			14,822-18,358	22,458	27,172-32,567
Social Workers	365,000		20,700 +			22,900	
Sociologists	3,000				14,822-18,358	22,458	27,172-32,567
Computer Programmers	479,000				14,822		
Computer Systems Analysts	331,000				14,822		

**Median salary all levels for middle 50%, + Salary in Hospital & Medical Centers. * Salary in Federal Government for 1986.

Note: Number does not include faculty.

SOURCE: Cooperative Education Research Program, 1989 Midwest Cooperative Education Student Employee Salary & Benefits Survey, October 1989.

TABLE 36

AVERAGE AND MEDIAN MONTHLY SALARIES PAID TO NEW COOPERATIVE EDUCATION BACHELOR'S GRADUATES IN THE MIDWEST BY CURRICULUM, 1989**

CURRICULUM	Average* Salary	Median Salary
BUSINESS		
All Business	\$1,882	\$1,871
Accounting	1,893	1,921
Banking & Finance	1,872	1,868
Management	1,826	1,838
Management Information Systems	1,960	1,887
Marketing	1,844	1,770
HUMANITIES & SOCIAL SCIENCES		
All Humanities & Social Sciences	1,632	1,595
Humanities	1,617	1,609
Social Sciences	1,654	1,701
SCIENCES		
All Sciences	2,059	2,124
Agriculture	1,788	1,915
Biological	1,814	1,720
Computer Science	2,044	2,167
Chemistry	2,172	2,151
Mathematics	2,068	2,151
Physics	2,129	2,187
ENGINEERING		
All Engineering	2,344	2,409
Chemical	2,462	2,483
Civil	2,165	2,128
Electrical, Electronic & Computer	2,420	2,519
Industrial	2,322	2,364
Mechanical	2,387	2,471
Engineering Technology	2,126	2,184
OTHER		
Architecture	1,598	1,685
Economics	1,659	1,722
Nursing & Allied Health	1,603	1,733
Criminal Justice	1,522	1,518

*Prior work experience not considered

**Includes Illinois, Indiana, Iowa, Kentucky, Michigan, Minnesota, Missouri, Ohio & Wisconsin.

SALARIES OF EXPERIENCED SCIENTIFIC AND TECHNICAL PERSONNEL

During the 1980s, three subsystems comprised the National Science Foundation's Scientific and Technical Personnel Data - the Survey of Doctorate Recipients, the New Entrants Survey and the Experienced Sample Survey.

Surveys of doctoral scientists and engineers are conducted by the National Research Council on a sample of individuals drawn from a roster of doctoral recipients. The roster is compiled from a number of sources, including the National Science Foundation's Doctorate Record's File, which is maintained by the National Academy of Sciences/National Research Council; the National Science Foundation's National Register of Scientific and Technical Personnel, which from 1954 through 1970 collected information on highly qualified scientists; American Men and Women of Science; and several other sources including university and college catalogues of doctorate-granting institutions, federal laboratories; and selected industrial organizations. The 1987 survey population consists of individuals who earned doctorates within the 42-year period from January 1, 1944 to June 30, 1986. Included in this population are individuals whose doctorates are in the natural or social sciences, mathematics, and engineering, as well as individuals who received research doctorates in non-S/E fields but were known to be employed as scientists or engineers.

The 1987 Survey of Doctorate Recipients, the eighth in a biennial series first conducted in 1973, included a sample of approximately 65,200 scientists and engineers. Data from this survey were published by the National Science Foundation in CHARACTERISTICS OF DOCTORAL SCIENTISTS AND ENGINEERS IN THE UNITED STATES: 1987.

The median annual salary for all doctoral scientists and engineers in 1987 was \$49,600, up 10.7% from 1985 and 23.7% from 1983, (Table 42). However, salaries varied considerably by field and a number of other variables. Overall, the top salary went to engineers - \$58,100, followed by computer scientists at \$54,400. At the other end of the scale, sociologists/anthropologists reported the lowest salary - \$41,700. In the beginning stages of their careers, doctorates in computer science earned more than those in engineering. However, by the fifth year of professional experience, or by age 35, engineers had overtaken computer scientists and held a salary advantage through the remainder of their careers (Tables 38 and 39). This was true regardless of sex. As shown in Tables 39 and 46, regardless of field or years of professional experience, male doctorates in science and engineering earned more than females - \$50,700 compared to \$40,200.

Those doctoral scientists and engineers working in business and industry received the highest salaries - \$57,400, while those working in state and local governments received the lowest - \$40,300. Salaries of doctorates by type of employer ranged from a high of \$65,400 for economists working in business to a low of \$29,500 for chemists working in elementary/secondary schools, (Table 40). By subfield of engineering, aeronautical/astronautical engineering doctorates reported the highest salary - \$60,900 - while civil engineering doctorates reported the lowest - \$53,300. By type of employer, the highest salary was reported by electrical/electronic engineering Ph.D.s working in business and industry - \$65,000 - (Table 41). Table 43 shows median annual salaries of doctoral scientists and engineers employed in business and industry by field from 1983 through 1987. During that period, overall salaries for S/E Ph.D.s employed in business and industry have risen 22%.

Teaching, the dominant work activity of doctoral scientists, continues to provide the lowest salary. In 1987, the median annual salary of Ph.D. scientists and engineers who reported teaching as their primary work activity was \$44,000 - more than 50% less than the \$67,400 earned by Ph.D.s reporting management of R & D as their principal work activity (Table 44).

By geographic area, doctoral scientists and engineers working in the Pacific region reported the highest median salaries - \$52,400. Those working in the West North Central reported the lowest - \$44,400. Atmospheric scientists working in the Pacific region reported the highest salary - \$61,700 - while sociologists/anthropologists working in the East South Central reported the lowest - \$35,400 (Table 45).

Overall women doctorates in science and engineering earned 20% less than men. The largest percentage difference was in the medical sciences where women Ph.D.s earned 25.7% less than did men. Generally, white Ph.D.s earned more than minority Ph.D.s and women earned less than minorities (Table 46).

The **New Entrants Survey** provides data on recent bachelor's and master's degree recipients in science and engineering fields who have entered the labor force. The 1988 survey of 1986 and 1987 bachelor's and master's degree graduates finds that women already earn less than their male colleagues one to two years after receipt of their degree. In all science and engineering fields in 1988, women bachelor's degree graduates of 1986 and 1987 had a median annual salary \$5,000 (18.5%) below the \$27,000 median reported by men. However, this differential is narrowing. In the 1986 survey, women baccalaureate graduates had a median annual salary \$7,000 or 25.9% below that of men baccalaureate graduates. Additionally, in the fields of engineering and environmental sciences, median annual salaries for men and women were the same (Table 47). A similar salary differential exists at the master's level between men and women. However, although women baccalaureates in environmental science reported the same salary as men, at the master's level, their salary was 18.7% below that of men. Women master's degree chemists earned the same as men chemists (Table 48). As was true at the doctoral level, both bachelor's and master's degree scientists and engineers employed in business and industry reported the highest salaries, while bachelor's graduates working in educational institutions and master's degree graduates working in state and local governments reported the lowest salaries (Table 49). Both bachelor's and master's graduates working in teaching reported the lowest annual salaries, while bachelor's graduates engaged in research and development and master's graduates working in management reported the highest salaries (Table 50). Median annual salaries in 1988 by racial/ethnic group for both bachelor's and master's degree graduates are shown in Table 51.

The fifth survey of **Recent College Graduates** conducted by the **National Center for Education Statistics** of the **U. S. Department of Education** examines the relationship between educational experiences and employment outcomes after graduation. Approximately 86% of all 1985-86 bachelor's degree recipients were employed after graduation, with only 5% unemployed. In 1987, those graduates working in engineering reported the highest salary (\$28,000), while those working in education reported the lowest (Table 52). This same situation was true by major field of study - engineering graduates earned the most; education graduates the least. Overall, the average annual salary of 1985-86 baccalaureate graduates in 1987 was \$20,300 (Table 53).

The third edition of **COMPENSATION AND BENEFITS IN RESEARCH AND DEVELOPMENT 1989** by **Abbott, Langer & Associates** provides data on both base salary and total cash compensation of 14 professional positions and three technician positions in 245 participating organizations. By job position, those with training in medicine/osteopathy working as research and development directors reported the highest median annual salary - \$85,200. Salaries of scientists and engineers working in research and development by job position and discipline are shown in Table 54). Where a R & D scientist or engineer is employed has an effect on salary. R & D specialists working in the Los Angeles/San Diego area reported the highest median annual income - \$45,882 - while those working in Portland, Oregon reported the lowest - \$27,000 (Table 55). By state, those R & D specialists working in Illinois earned the highest median salaries - \$75,000 - while those working in Massachusetts earned the least - \$22,000 (Table 56). Overall, R & D specialists working in the Southern states reported the highest salaries - \$41,600, while those working in the North Central states reported the lowest - \$28,920 (Table 57).

As expected, the more experienced R & D scientists and engineers reported higher salaries regardless of job position, although in the later working life, salaries did begin to drop (Table 58). Research and development specialists working in food, beverage and tobacco products manufacturing organizations reported the lowest salaries, while those working in aerospace organizations reported the highest (Table 59). Table 60 presents annual salaries by work function and job position, while Table 61 shows the effect of level of education on salary by job position.

The third annual **NATIONAL COMPENSATION SURVEY OF RESEARCH AND DEVELOPMENT SCIENTISTS AND ENGINEERS**, conducted by **The Hay Group, Washington, DC** for the **U.S. Department of Energy** continues a series conducted for 18 years by the **Battelle Columbus Laboratories**. The 1989 survey report covers 102 establishments and provides data on early 36,000 degreed researchers in the natural sciences and engineering. By working-as-occupation, baccalaureates working in mathematics reported the highest average monthly salary - \$3,946; at the master's level, those working in civil engineering earned the most - \$4,521 per month; and doctorates working in electrical/electronic engineering had the highest monthly salary - \$5,250. At all three degree levels, those working in the biological sciences reported the lowest salary (Tables 62, 63 and 64). Table 67 summarizes the monthly salary of R/D scientists and engineers by working-as-occupation for all three degree levels.

Those R & D scientists and engineers with baccalaureates working in contract research centers reported the highest average monthly salaries - \$3,767, while those with advanced degrees earned the most working in nonprofit establishments (Table 65).

By highest degree level, physicists at the bachelor's and master's level reported the highest average salaries working in R & D in 1989, while computer scientists had the highest average salary at the doctoral level (Table 66). By geographic region, R & D scientists and engineers at the bachelor's level working in the Northwest reported the highest salaries, while at the master's and doctoral level those working in the Southwest and Northeast respectively earned the most (Table 68). Those R & D scientists and engineers working in aerospace earned the most at the bachelor's and master's level, while Ph.D.s reported higher salaries working in the electrical, electronic and computer industries (Table 69).

The annual profile of scientists and engineers working in research and development by **RESEARCH & DEVELOPMENT** Magazine finds that median income has increased more than 9% from 1988 to 1989. Overall, to earn the big salary in research and development, there is a simple formula: be a 65-year-old man working in industry with a Ph.D. and 40 years of experience. However, 50% of the population would be ruled out of the above high-salary formula by sex, and other factors enter into the equation. As shown in Table 70, aeronautical engineers report the highest median salary \$57,500 while industrial engineers report not only the lowest salary, but the smallest percentage increase from 1988 to 1989.

The research and development scientist or engineer with a doctoral degree can expect a career income advantage of \$1,825,000 over his R & D colleague who did not go beyond the baccalaureate level. The spread in average Ph.D.-over-BS career earnings has nearly tripled in the past five years from \$620,000 in 1984. In 1989, the median salary of a doctorate was \$54,351, compared to \$42,933 for a baccalaureate R & D scientist or engineer (Table 71).

Regardless of type of employer, women earned less than their male colleagues. Although some of the disparity can be traced to the fact that women do not have as much experience as men, tend to concentrate more in the biological sciences than in the high-paying engineering fields and work in academic institutions as opposed to industry, there is still sex discrimination in R & D salaries as shown in Table 72).

The 29th annual **NATIONAL SURVEY OF PROFESSIONAL, ADMINISTRATIVE, TECHNICAL, AND CLERICAL PAY: PRIVATE NONSERVICE INDUSTRIES, MARCH 1988** provides nationwide data for 28 occupations spanning 112 work level categories. Information was collected from establishments employing 50 or more workers throughout the United States, except Alaska and Hawaii. Approximately 170,500 establishments within the scope of the survey employed about 35 million workers - 38% in professional, administrative, technical and clerical occupations on full-time schedules. Average salaries in March 1988 of engineers, (the largest professional group studied, accounting for 72% of the total 678,400), ranged from \$29,592 for college graduates in trainee positions to \$87,914 for those responsible for highly complex engineering programs. Chemists' salaries ranged from \$26,616 to \$79,759, while salaries for computer programmers varied from \$22,531 to 45,536 depending upon level of responsibility (Table 73).

SALARIES 1989, the annual survey of salaries and employment of its members by the **American Chemical Society**, reports that median salaries were up 5% over 1988 at all three degree levels, while median salaries for chemical engineers at all degree levels were relatively flat for the second year in a row. Median salaries of chemists and chemical engineers from 1973 through 1989 by degree level are shown in Table 74.

Women chemists continue to earn less than their male colleagues. In part, this is because women, as a group, have less experience. For example, nearly 80% of the nonacademic respondents who are women received their bachelor's degrees less than 20 years ago, compared with only about half the men. But even adjusting the salaries to account for this difference, the averages for women's salaries are still only roughly 80 to 90 percent of those of men, a differential that has not changed significantly over the past six years or so. Table 75 shows that the salary gap between men and women is small for those with less experience, but widens markedly as their careers lengthen, regardless of degree level. Another part of the reason for the salary disparity between the sexes lies in differences in the type of work or the levels of responsibility between men and women. In industry, men chemists are twice as likely as women to hold management positions, the jobs for which salaries tend to be highest. Additionally, nearly 30% of the women report they work as analytical chemists, compared with only about 20% of the men; and women also are more likely than men to hold jobs as biochemists or environmental chemists - all specialties for which salaries typically are lower than those such as physical chemists, materials science, or polymers - specialties where men are overrepresented. Overall, regardless of type of employer or degree level, women earn less than men (Table 76).

Salaries of chemists employed in industry vary from industry to industry as shown in Table 77. Salaries tend to be higher in the basic chemicals, petroleum and rubber industries, regardless of degree level. Not surprisingly, those chemists with supervisory responsibilities report higher salaries than those who do not have supervisory status as shown in Table 78.

As noted earlier, chemical specialty and work function have an effect on salary. Table 79 shows salaries of industrial chemists by type of work specialty and Table 80 presents salaries by work function. Physical chemists generally report the highest salaries, regardless of degree level, while those chemists engaged in management of R & D report higher earnings. Salaries also differ by geographic region. The median salary of Ph.D.s in industry ranged from a high of \$60,000 in the Pacific, West South Central and Middle Atlantic regions to a low of \$51,400 in the Mountain region. Regional differences are shown in Table 81.

The sixth biennial demographic survey of members of the American Institute of Chemists reports an overall median salary of \$51,400 in 1988, up 11.7% since 1986, considerably above the 2.2% percentage increase reported during the 1984-86 period. Leading the way were Ph.D.s whose 1988 median annual salary of \$59,750 was 18% higher than in 1986 at \$50,000. Bachelor's level AIC members experienced a gain of 15.3%, while the median for those with master's degree moved up 8.1% to \$45,000. As shown in Table 82, women continued to report lower salaries than their male colleagues. In 1988, male chemists with bachelor's degrees reported a 2% higher salary than did women. This salary differential widened to 27% at the master's level, and dropped slightly to 22% at the doctoral level. One hopeful sign is that at the baccalaureate level, these differences are less than they were two years ago.

Generally, the older a chemist is the higher his salary is apt to be. However, there are some variations. Among Ph.D.s, chemists aged 30-39, reported a median salary of \$60,000 a year, whereas those in the 40-49 age group only reported \$57,000. But, among bachelor's and master's up to age 60, this pattern does hold true - the older a chemist, the higher the salary (Table 83).

Where chemists work and their principal field of specialty tend to be major factors in predicting compensation. Nearly half of all AIC members work in industry, where they continue to report the highest median salaries, except for master's degree chemists who are self-employed. They report higher salaries than those who work in industry (Table 84). Polymer chemists with bachelor's degrees reported a very high median salary - \$10,000 higher than that for master's degrees and only \$4,800 less than that reported for Ph.D.s. Chemical engineers reported the highest medians at both the master's and doctoral levels (Table 85).

Salaries increase as a function of years of experience. For example, among Ph.D. chemists, those with 5-9 years of experience earn \$42,000 while those with 30-39 years of experience earn \$65,000. Median salaries regularly increase among bachelor's and master's degree chemists as a function of years of professional experience, peaking at nearly \$60,000 for both degrees after 30 or more years as shown in Table 86.

About 25% of AIC members are engaged in management or administration, and not unexpectedly their salaries were higher at both the bachelor's and doctoral levels. However, master's degree chemists engaged in marketing or sales reported the highest salaries (Table 87). By geographic area, salaries ranged from a high of \$60,500 for Ph.D.s working in the East South Central region to a low of \$37,000 for baccalaureates employed in the West North Central region (Table 88).

The 1989 ANNUAL AMS-MAA SURVEY of New Doctorates by the American Mathematical Society and the Mathematical Association of America reports that after one year of experience, women Ph.D.s in mathematics reported higher salaries than did men regardless of type of employment (Table 89).

Average salaries of geologists follow the usual pattern - the higher the degree and the more experience, the higher the salary. However, as reported by the American Geological Institute in GEOTIMES from statistics compiled by MLA Resources for the American Association of Petroleum Geologists, bachelor's level geologists with 20 or more years of experience reported the highest salary - \$90,000 (Table 90).

SALARIES IN PSYCHOLOGY 1987 is the fifth in a series of reports issued by the American Psychological Association on the salaries of psychologists. A total of 11,173 respondents provided data for the analysis. Not surprisingly, psychologists in independent practice report higher salaries than do those who are employed in faculty positions, regardless of metropolitan area. The highest median salary was reported by those psychologists in

independent practice working in the New York City Metropolitan area (Table 91). Doctoral-level psychologists working in the Middle Atlantic and Pacific areas generally reported higher salaries than did those working elsewhere, regardless of type of position (Table 92). Salaries of Ph.D. psychologists by type of position and years of work experience are shown in Table 93. Further information on psychologists is presented in the section on faculty salaries.

Information on the salaries of members of the American Institute of Physics member societies are collected and published biennially. **SALARIES 1987** reports that physicists employed in industry command the highest salaries regardless of degree or experience level, while those employed in academia earned the least (Tables 94 and 95). Industrial Ph.D. physicists working in development, design and engineering tend to earn more at the beginning of their careers than those working in other activities. However, as they progress in their careers, those physicists working in administration report the highest salaries (Table 96).

By geographic region, those doctoral physicists working in the Pacific region report the highest salaries, while those working in the West North Central earn the least (Table 98). Highest median salaries were reported by Ph.D. physicists working in industry in the New England region - \$63,000 (Table 97). By state, the highest median salary was reported by physicists working in the District of Columbia (\$57,900), followed by those working in Northern California - \$57,100. Physicists working in Kansas reported the lowest median salary - \$33,000 (Table 101). Salaries of Ph.D. physicists by years since the doctorate are shown in Table 99.

Women comprise only a small proportion of the physics workforce and earn less than their male colleagues regardless of years of experience or employment setting. For example, women Ph.D. physicists working in industry 0-6 years since their last degree earned 10.4% less than their male colleagues with similar qualifications. They were of similar age (Table 100).

Salaries vary widely among information systems and data processing personnel and are a function of several factors, according to the sixth annual survey of 761 organizations reported in **COMPENSATION IN THE MIS/DP FIELD** by Abbott, Langer & Associates and sponsored by Data Processing Management Association. Median salaries ranged from a high of \$52,750 for Management Information Systems (MIS) managers to a low of \$12,896 for intermediate data entry operators. Average and median salary and total compensation are reported for 55 MIS/dp positions in Table 102.

A number of factors affect salaries paid to MIS/dp personnel. Although industry pays the highest salaries, some jobs pay more in manufacturing organizations, while others command higher salaries in non-manufacturing organizations. Educational institutions continue to pay the lowest salaries (Table 103). Other factors influencing salary are level of education (Table 104), length of experience (Table 105), and geographic area. In general, the more education, the more experience and being employed in the Northeastern or Pacific regions increases salary levels.

The Association of Data Processing Services Organization (ADAPSO) and Mercer Meidinger Hansen report salaries of selected data processing personnel in the ADAPSO **COMPENSATION SURVEY RESULTS 1989**. The 1989 report presents results from 93 companies (not including divisions and subsidiaries) covering 32,000 individual salary rates, and is divided into two sections: Executive Management and Middle Management, Professional and Technical. Salaries vary by level of responsibility and geographic area. For example, lead operating systems/software programmer/analysts report the highest salaries in the Southwest and the lowest in the Midwest (Table 107), while senior software development programmer/analysts report the highest salaries in California/Hawaii and the lowest in the Southeast (Table 108). Technical writers and customer service representatives had the highest median salaries in California/Hawaii, regardless of level of responsibility (Tables 109 and 110). Customer support technicians reported the highest salaries working in the Northeast regardless of level of responsibility while applications programmer/analysts generally reported higher salaries in the Northeast (Table 112). Table 113 presents median salaries for a variety of data processing jobs by geographic area. Overall, salaries ranged from a high of \$66,200 for operating systems/software programming analysis managers to a low of \$15,200 for intermediate data entry operators. Type of service has an effect on salaries paid to data processing personnel as is shown in Table 114.

Salaries will increase an average 5.6% during 1989, according to the results of **DATAMATION'S** annual **Salary Survey**, which reports salaries for 49 dp positions. The survey noted that demand far exceeds supply at both the top and the entry level of the Information Systems (IS) career ladder. Those in the upper middle section - first-

and second-level IS managers and senior technicians - can expect less return for their skills in the coming decade, as their areas of expertise become overcrowded. Systems analysts are outpacing programmers in the quest for higher salaries. However, as shown in other surveys of data processing personnel, what you do and where you work has an important influence on salary. Table 115 presents average salaries by type of industry and job position for 1989. Salaries range from a high of \$114,000 paid to vice presidents of information processing in consumer manufacturing companies to a low of \$13,900 earned by data entry operators working in the banking industry. Geographic region is a big influence on salaries paid to data processing personnel. Of the geographic regions noted in Table 116, salaries for vice presidents of information systems ranged from a high of \$112,500 in Philadelphia to a low of \$31,000 in St. Louis.

The HAY ACCESS COMPENSATION REPORT for EDP and MIS positions, prepared by The Hay Group is the twelfth annual study of compensation for selected jobs in the data processing function. The 1989 report includes information on over 16,000 incumbents from a total of 245 organizations representing a broad cross section of general industry. Entry level dp professionals report higher salaries in the West/Northwest region of the country, while senior and second level management dp professionals earn more in the Metropolitan New York, Philadelphia, and Washington, DC areas (Table 117). By type of industry, entry level and senior dp personnel report higher salaries working in the petroleum/gas industry, while second level management personnel earn more working in diversified financial industries (Table 118).

The tenth annual edition of COMPENSATION IN THE ACCOUNTING/FINANCIAL FIELD by Abbott, Langer & Associates reports data from 107 organizations for accounting/financial personnel by a number of variables. Overall, non-supervisory accountants/auditors had a median salary of \$26,222 compared to \$32,500 for supervisory accountants/auditors. Table 119 presents salaries by type of organization and type of position. Median salaries ranged from a high of \$55,000 for accounting/auditing managers working in aerospace to a low of \$20,055 for junior accountants working in food/beverage/tobacco product manufacturing organizations. Table 120 presents salaries of accounting personnel by metropolitan area and type of position. Level of education has an effect on salary. Accounting/financial personnel with an MBA degree report higher salaries regardless of type of position as shown in Table 121.

Median weekly earnings of managerial and professional workers reached \$581 in the first quarter of 1989, according to data from the U. S. Department of Labor Bureau of Labor Statistics. However, there was a wide disparity between the sexes. Men reported weekly earnings of \$685 - 28.5% higher than the \$490 reported by women. This same wage disparity is seen regardless of type of occupation (Table 122).

The median weekly earnings of full-time wage and salary workers by sex in selected occupations employed 50,000 or more workers is collected annually and reported by the Bureau of Labor Statistics. Table 123 reports salaries for workers in science, engineering and related fields by sex for 1988. Of the fields reported in the table, women come closest to matching the salary of men in social work where they earned 96.8% of what men do. Overall, in all professional specialty occupations, women earned only 72.9% of what men did.

SOURCE: National Science Foundation, *Characteristics of Doctoral Scientists and Engineers in the United States, 1987*.

TABLE 37

MEDIAN ANNUAL SALARIES OF DOCTORAL SCIENTISTS AND ENGINEERS BY FIELD AND YEARS OF PROFESSIONAL EXPERIENCE, 1987

FIELD	TOTAL	YEARS OF PROFESSIONAL EXPERIENCE										
		1 or Less	2-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 or More	No Report
ALL FIELDS	\$49,600	\$36,600	\$37,000	\$42,700	\$48,600	\$54,100	\$58,100	\$60,700	\$63,900	\$67,700	\$68,700	\$47,800
PHYSICAL SCIENTIST	51,400	38,400	40,300	45,600	50,700	54,400	57,900	59,800	63,500	64,800		58,000
Chemist	50,500	37,700	39,800	45,700	50,700	53,800	58,200	58,700	62,200	61,000		52,700
Physicist / Astronomer	53,400	39,600	42,100	45,200	50,700	55,000	57,600	63,800	65,500	72,100		
MATH. SCIENTIST	46,600	30,500	34,400	38,200	45,300	48,800	53,500	58,700	65,100	70,300		45,600
Mathematician	46,600	30,000	33,700	37,300	45,200	48,600	52,500	58,500	65,400	64,800		45,400
Statistician	46,700		35,500	39,800	45,900	52,200	61,800					
COMPUTER/INFO. SPECIALIST	54,400	45,400	46,000	50,200	55,200	58,900	60,900	70,500	70,200			51,100
ENVIRONMENTAL SCIENTIST	50,300	34,600	34,700	42,400	50,300	56,400	61,600	66,900	63,100	70,100		43,300
Earth Scientist	50,800	35,800	35,600	44,900	50,700	56,300	61,400	67,200	62,000	70,400		
Oceanographer	44,300		33,800	38,800	47,200	55,600						
Atmospheric Scientist	50,000		34,100	40,600	46,900	61,800						
ENGINEER	58,100	45,300	44,800	51,700	58,300	62,600	63,600	70,400	72,500	71,300		54,300
LIFE SCIENTIST	45,700	33,000	34,200	38,900	45,300	50,400	55,400	58,500	62,900	67,600	67,100	40,800
Biological Scientist	44,500	29,800	32,400	36,900	44,000	48,900	53,700	55,800	60,800	65,600		40,900
Agricultural Scientist	44,300	32,300	34,100	38,600	43,000	47,300	51,300	55,700	60,500	63,900		
Medical Scientist	50,400	35,100	37,300	43,800	50,800	58,400	63,600	66,700	70,800	80,200		40,300
PSYCHOLOGIST	44,300	30,500	33,400	40,700	44,500	49,700	50,400	58,300	55,700	61,700		52,500
SOCIAL SCIENTIST	45,300	36,000	33,700	40,000	44,600	50,600	55,200	55,700	60,700	68,800		44,200
Economist	50,800		39,000	45,300	53,200	58,100	61,000	58,200	65,200			
Soc. / Anthropologist	41,700		30,000	36,400	40,900	45,500	51,000	59,300	53,400			
Other Social Scientist	44,100	35,900	32,300	39,400	42,900	48,900	53,900	55,000	60,300	67,600		35,700

NOTE: All median salaries were computed for full-time employed civilians. No median was computed for groups with fewer than 20 individuals reporting salary.

SOURCE: National Science Foundation, *Characteristics of Doctoral Scientists and Engineers in the U.S., 1987*.

TABLE 38

MEDIAN ANNUAL SALARIES OF DOCTORAL SCIENTISTS AND ENGINEERS BY FIELD AND AGE, 1987

FIELD	Total	Under 30	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69
ALL FIELDS	\$49,600	\$39,700	\$39,700	\$42,400	\$48,700	\$52,400	\$55,400	\$57,200	\$58,700	\$59,600
PHYSICAL SCIENTIST	51,400	40,000	41,400	46,400	52,000	54,800	56,100	60,100	62,800	55,800
Chemist	50,500	40,300	41,000	46,600	52,300	53,800	54,900	58,700	63,400	53,800
Physicist/Astronomer	53,400	38,100	42,600	46,000	51,300	55,700	59,400	63,200	62,300	57,900
MATHEMATICAL SCIENTIST	46,600	32,500	35,900	40,500	45,800	48,800	52,000	57,200	58,500	52,000
Mathematician	46,600	29,600	35,700	40,800	45,700	48,100	51,700	56,700	58,500	57,200
Statistician	46,700	48,600	36,100	38,100	47,200	55,400	52,600			
COMPUTER / INFO. SPECIALIST	54,400		50,600	50,400	56,700	55,700	60,900	60,500	60,900	
ENVIRONMENTAL SCIENTIST	50,300		36,500	42,000	48,000	56,500	61,300	58,200	63,300	60,500
Earth Scientist	50,800		37,900	42,900	49,600	56,600	60,500	56,800	63,800	55,600
Oceanographer	44,300		33,600	38,500	42,300	55,500	62,200			
Atmospheric Scientist	50,000			40,600	43,400	59,500				
ENGINEER	58,100	44,100	47,000	53,200	58,900	62,000	63,800	63,700	67,300	67,800
LIFE SCIENTIST	45,700	30,900	34,400	39,300	44,700	49,500	52,900	55,000	58,300	60,200
Biological Scientist	44,500		33,500	38,600	43,200	48,400	52,200	52,400	58,100	57,300
Agricultural Scientist	44,300		35,400	36,800	42,300	46,400	50,300	54,400	55,100	60,200
Medical Scientist	50,400		35,500	42,100	48,900	55,800	59,800	61,200	60,500	63,700
PSYCHOLOGIST	44,300	28,800	33,800	39,900	43,100	48,600	48,900	53,200	50,400	53,000
SOCIAL SCIENTIST	45,300	41,100	36,500	37,500	43,000	47,700	50,000	53,300	53,300	59,400
Economist	50,800		44,300	42,700	52,600	53,600	58,300	55,900	57,900	67,400
Sociologist / Anthropologist	41,700		30,200	35,000	37,900	44,100	44,000	50,500	48,800	53,600
Other Social Scientist	44,100		31,700	36,500	42,300	46,800	49,300	50,800	53,000	55,100

NOTE: Median salaries computed only for full-time employed civilians. Blanks indicate no median was computed for groups with fewer than 20 individuals reporting salary.

SOURCE: National Research Council, *Science and Engineering Doctorates in the U.S.*, Unpublished.

TABLE 39

MEDIAN ANNUAL SALARIES OF SCIENTISTS AND ENGINEERS BY FIELD, SEX, AND YEARS OF PROFESSIONAL EXPERIENCE, 1987

FIELD	YEARS OF PROFESSIONAL EXPERIENCE															
	1 or less		2 - 4		5 - 9		10 - 14		15 - 19		20 - 24		25 - 29		TOTAL	
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
ALL FIELDS	\$38,300	\$32,100	\$38,700	\$34,500	\$44,600	\$38,800	\$50,100	\$42,700	\$55,100	\$45,900	\$58,500	\$50,000	\$61,100	\$52,900	\$50,700	\$40,200
PHYSICAL SCIENTISTS	38,800	36,600	40,400	39,400	45,900	41,100	51,000	44,700	54,800	42,600	58,400	47,000	59,700	61,100	52,400	41,900
Chemists	38,400	36,200	39,800	39,600	46,400	40,700	51,200	44,700	54,600	42,200	58,700	46,400	58,600	61,300	51,300	41,500
Phys./Astronomer	39,400		42,400	38,100	45,300	43,400	50,800	45,000	55,100	47,200	57,600	56,300	63,800		53,800	45,500
Math. Scientists		32,200	34,500	34,200	38,400	37,500	45,400	42,900	49,000	42,100	53,800	47,500	58,800	48,300	47,500	39,600
Mathematicians		32,000	33,800	33,000	38,200	34,600	45,300	42,800	48,800	42,400	52,900	45,800	58,800	46,000	47,500	38,400
Statisticians			35,600	35,400	38,500	45,600	45,900		52,300		61,800				47,300	42,700
Computer/Info. Specialists	45,700	44,100	47,400	37,600	50,500	47,100	55,700	40,700	60,000	45,800	61,200		70,500		55,400	43,400
Enviro./Scientists	34,900		34,800	33,800	42,600	40,800	50,500	47,000	56,500	53,500	61,800	50,200	67,000		50,700	41,800
Earth Scientists			35,800	35,100	45,100	40,900	50,800	46,700	56,400	50,800	61,800		67,300		51,400	41,800
Oceanographers					38,700	39,100	47,000		55,500						44,900	41,100
Atmospheric Scientists					40,600		48,200		61,800						50,200	44,500
Life Scientists	33,400	32,000	34,000	34,600	39,600	37,500	46,000	42,000	50,700	45,500	55,800	48,900	60,000	49,500	48,000	39,600
Biological Scientists	29,900	29,700	33,100	30,600	37,800	35,700	45,000	40,800	49,800	43,000	55,200	48,400	57,000	49,200	46,000	38,600
Agriculture Scientists	32,300		34,000	34,300	38,600	38,000	43,100	42,200	47,200		51,400		55,700		45,000	36,000
Medical Scientists	37,000	33,700	38,100	36,900	46,100	41,300	53,300	43,900	60,500	48,600	64,800	59,800	70,100	51,000	55,300	41,100
Psychologists	30,600	30,300	34,700	30,900	41,600	39,700	45,100	41,800	50,200	46,400	50,300	50,600	59,100	55,600	46,200	39,500
Social Scientists	38,100	30,600	33,700	33,400	40,800	36,700	44,800	43,400	50,800	47,300	55,300	52,700	55,700	52,600	47,000	39,600
Economists			38,800	39,800	45,800	42,900	53,200	48,300	58,200	54,100	61,400	50,200	57,900		51,500	45,000
Sociologists/ Anthropologist			30,500	28,100	36,700	35,000	40,600	42,600	45,300	48,300	50,800	52,300	59,400		42,700	37,400
Other Social Scientists	38,600	28,200	31,200	35,100	40,200	35,900	43,000	42,700	50,000	45,500	53,900	54,900	55,100	45,500	45,600	39,000
Engineers	45,500	42,600	44,800	44,500	51,800	49,900	58,400	56,200	62,700	54,700	63,700	62,500	70,400		58,500	48,200

NOTE: Median salaries computed for full-time employed civilians only.

Medians were not reported for cells with less than 20 cases reporting salary.

TABLE 40

MEDIAN ANNUAL SALARIES OF DOCTORAL SCIENTISTS AND ENGINEERS BY FIELD AND TYPE OF EMPLOYER, 1987

FIELD	Total	Business & Industry	EDUCATIONAL INSTITUTIONS				Hospital/ Clinic	Non- Profit Organiza- tion	Federal Govern- ment	State & Local Govern- ments
			Total	4-Year Colleges	2-Year Colleges	Elem./Sec. School				
ALL FIELDS	\$49,600	\$57,400	\$45,900	\$46,200	\$41,300	\$40,500	\$40,700	\$47,000	\$50,700	\$40,300
PHYSICAL SCIENTISTS	51,400	55,600	48,000	48,300	42,600	30,200	52,100	49,600	50,600	33,800
Chemists	50,500	55,200	44,800	46,000	43,500	29,500	52,500	49,600	47,500	33,000
Physicists/Astronomers	53,400	57,200	51,400	52,000	40,400			49,400	54,200	
MATHEMATICAL SCIENTISTS	46,600	58,000	45,300	45,900	39,900	36,200		43,700	50,700	
Mathematicians	46,600	58,100	45,400	46,200	39,000	36,200			56,400	
Statisticians	46,700	55,500	45,000	45,000					50,200	
COMPUTER/INFO. SPECIALISTS	54,400	57,500	49,700	50,000				51,300	56,400	39,800
ENVIRONMENTAL SCIENTISTS	50,300	56,600	45,400	45,400				46,400	52,400	40,100
Earth Scientists	50,800	58,100	47,000	47,700				49,600	51,700	40,100
Oceanographers	44,300	50,900	39,900	39,900					52,300	
Atmospheric Scientists	50,000	48,300	42,800	42,800				45,700	58,200	
ENGINEERS	58,100	60,300	55,500	55,500				62,100	53,800	46,800
LIFE SCIENTISTS	45,700	51,700	44,300	44,500	41,700	32,900	46,400	44,800	47,900	41,900
Biological Scientists	44,500	50,400	42,700	42,900	41,500	32,100	41,000	40,900	47,300	42,700
Agricultural Scientists	44,300	45,000	44,200	44,100				42,400	45,600	40,000
Medical Scientists	50,400	60,600	48,000	48,100		42,900	49,300	50,400	52,400	45,100
PSYCHOLOGISTS	44,300	60,100	42,100	41,900	42,200	44,900	38,700	34,500	45,400	40,000
SOCIAL SCIENTISTS	45,300	55,800	43,600	44,000	39,300	35,500		45,300	53,600	39,300
Economists	50,800	65,400	48,000	48,100				60,400	56,900	
Sociologists/ Anthropologists	41,700	41,200	41,900	41,900				34,800		
Other Social Scientists	44,100	50,900	42,400	42,600	38,400			46,000	53,300	39,700

NOTE: Median salaries computed only for full-time employed civilians. Blanks indicate no median was computed for groups with fewer than 20 individuals reporting salary.

SOURCE: National Science Foundation, *Characteristics of Doctoral Scientists and Engineers in the U.S., 1987*.

TABLE 41

**MEDIAN ANNUAL SALARIES OF DOCTORAL ENGINEERS BY SUBFIELD OF ENGINEERING
AND TYPE OF EMPLOYER, 1987.**

FIELD	TOTAL		BUSINESS & INDUSTRY		EDUCATIONAL INSTITUTIONS		FEDERAL GOVERNMENT	
	Number	Median Salary	Number	Median Salary	Number	Median Salary	Number	Median Salary
ENGINEERS	67,768	\$58,100	37,147	\$60,300	23,710	\$55,500	3,606	\$53,800
Aeronautical / Astronautical	5,005	60,900	3,177	60,600	907	62,600	550	54,500
Chemical	6,923	58,900	4,690	60,700	1,941	53,800	164	
Civil	6,479	53,300	1,931	60,200	3,802	53,000	387	55,800
Electrical / Electronic	12,601	60,500	7,600	65,000	3,979	58,400	637	55,000
Mechanical	6,711	55,700	2,641	57,700	3,544	55,200	311	
Nuclear	2,151	58,900	1,203	56,700	519	62,600	105	
Other	27,898	58,100	15,905	59,900	9,018	56,000	1,452	52,100

Note: Median salaries computed only for full-time employed civilians. Blanks indicate no median was computed for groups with fewer than 20 individuals reporting salary.

SOURCE: National Science Foundation, *Characteristics of Doctoral Scientists and Engineers in the U.S., 1987*.

TABLE 42

NUMBER AND MEDIAN ANNUAL SALARIES OF EMPLOYED DOCTORAL SCIENTISTS AND ENGINEERS BY FIELD, 1983-1987

FIELD	1983			1985			1987		
	Number	%	Median Annual Salary	Number	%	Median Annual Salary	Number	%	Median Annual Salary
ALL FIELDS	369,320	100.0	\$40,100	400,358	100.0	\$44,800	419,118	100.0	\$49,600
PHYSICAL SCIENTISTS	63,986	17.3	42,300	67,480	16.9	47,000	68,647	16.4	51,400
Chemists	41,298	11.2	41,900	43,735	10.9	46,000	44,136	10.5	50,500
Physicists/Astronomers	22,688	6.1	42,900	23,745	5.9	48,400	24,511	5.8	53,400
MATHEMATICAL SCIENTISTS	16,379	4.4	36,600	16,758	4.2	42,100	16,699	4.0	46,600
Mathematicians	13,589	3.7	36,400	13,957	3.5	41,800	13,878	3.3	46,600
Statisticians	2,790	0.8	37,400	2,801	0.7	43,700	2,821	0.7	46,700
COMPUTER / INFO. SPECIALISTS	12,164	3.3	40,400	14,964	3.7	46,000	18,571	4.4	54,400
ENVIRONMENTAL SCIENTISTS	16,467	4.5	40,900	17,288	4.3	46,600	17,811	4.2	50,300
Earth Scientists	12,523	3.4	41,500	13,202	3.3	47,500	13,577	3.2	50,800
Oceanographers	1,742	0.5	36,700	1,959	0.5	42,300	2,037	0.5	44,300
Atmospheric Scientists	2,202	0.6	41,600	2,127	0.5	47,300	2,197	0.5	50,000
ENGINEERS	61,545	16.7	46,600	65,853	16.4	52,400	67,400	16.2	58,100
LIFE SCIENTISTS	92,802	25.1	37,300	101,838	25.4	41,700	107,378	25.6	45,700
Biological Scientists	55,205	14.9	36,200	59,871	15.0	40,500	61,985	14.8	44,500
Agricultural Scientists	14,536	3.9	37,900	15,513	3.9	41,200	15,796	3.8	44,300
Medical Scientists	23,061	6.2	41,200	26,454	6.6	45,900	29,597	7.1	50,400
PSYCHOLOGISTS	46,645	12.6	35,800	52,182	13.0	39,500	56,378	13.5	44,300
SOCIAL SCIENTISTS	59,332	16.1	36,000	63,995	16.0	40,500	65,866	15.7	45,300
Economists	16,958	4.6	41,400	17,925	4.5	46,100	17,837	4.3	50,800
Soc./Anthropologists	12,056	3.3	32,100	12,692	3.2	37,200	12,933	3.1	41,700
Other Social Scientists	30,318	8.2	35,000	33,378	8.3	38,300	35,096	8.4	44,100

NOTE: Percents may not add to 100 because of rounding. Median salaries computed for full-time employed civilians only.

SOURCE: National Science Foundation, *Characteristics of Doctoral Scientists and Engineers in the U. S., 1987*.

TABLE 43

NUMBER AND MEDIAN ANNUAL SALARIES OF DOCTORAL SCIENTISTS AND ENGINEERS EMPLOYED IN BUSINESS AND INDUSTRY
BY FIELD, 1983-1987

FIELD	1983				1985				1987			
	No.	%	% of total employed	Median annual salary	No.	%	% of total employed	Median annual salary	No.	%	% of total employed	Median annual salary
ALL FIELDS	113,463	100.0	30.7	\$47,000	125,767	100.0	31.4	\$52,000	131,699	100.0	31.4	\$57,400
Men	103,272	1.0	32.2	47,900	112,822	89.7	33.0	52,800	115,817	87.9	32.9	58,900
Women	10,191	9.0	20.9	38,900	12,945	10.3	22.1	42,400	15,882	12.1	23.8	47,700
PHYSICAL SCIENTISTS	28,748	25.3	44.9	45,900	30,281	24.1	44.9	51,100	30,741	23.3	44.8	55,600
Chemists	22,525	19.9	54.5	45,600	24,067	19.1	55.0	50,800	24,091	18.3	54.6	55,200
Phys./Astronomers	6,223	5.5	27.4	48,300	6,214	4.9	26.2	53,800	6,650	5.0	27.1	57,200
MATHEMATICAL SCIENTISTS	2,027	1.8	12.4	42,700	1,911	1.5	11.4	50,200	1,838	1.4	11.0	58,000
Mathematicians	1,512	1.3	11.1	43,600	1,393	1.1	10.0	51,200	1,362	1.0	9.8	58,100
Statisticians	515	0.5	18.5	40,000	518	0.4	18.5	43,900	476	0.4	16.9	55,500
COMPUTER/INFO. SPECIALISTS	6,819	6.0	56.1	42,700	8,351	6.6	55.8	48,700	11,383	8.6	61.3	57,900
ENVIRONMENTAL SCIENTISTS	5,154	4.5	31.3	48,500	5,254	4.2	30.4	54,400	5,168	3.9	29.0	56,600
Earth Scientists	4,596	4.1	36.7	49,200	4,769	3.8	36.1	54,900	4,693	3.6	34.6	58,100
Oceanographers	217	0.2	12.5		162	0.1	8.3	40,600	198	0.2	9.7	50,900
Atmospheric Scientists	341	0.3	15.5	48,600	323	0.3	15.2	52,900	277	0.2	12.6	48,300
ENGINEERS	34,500	30.4	56.1	49,900	37,858	30.1	57.5	55,200	37,147	28.2	54.8	60,300
LIFE SCIENTISTS	16,444	14.5	17.7	43,700	19,165	15.2	18.8	49,200	20,455	15.5	19.0	51,700
Biological Scientists	7,730	6.8	14.0	41,800	9,337	7.4	15.6	47,300	9,716	7.4	15.7	50,400
Agricultural Scientists	3,583	3.2	24.6	40,100	4,004	3.2	25.8	44,100	3,892	2.9	24.6	45,000
Medical Scientists	5,131	4.5	22.2	50,700	5,824	4.6	22.0	56,100	6,857	5.2	23.2	60,600
PSYCHOLOGISTS	13,020	11.5	27.9	48,000	15,530	12.3	29.8	50,500	17,381	13.2	30.8	60,100
SOCIAL SCIENTISTS	6,751	5.9	11.4	45,400	7,417	5.9	11.6	50,600	7,586	5.8	11.5	55,800
Economists	2,779	2.4	16.4	52,100	3,043	2.4	17.0	56,300	2,819	2.1	15.8	65,400
Social/Anthropologists	801	0.7	6.6	36,300	1,069	0.8	8.4	45,000	1,216	0.9	9.4	41,200
Other Social Scientists	3,171	2.8	10.5	35,600	3,305	2.6	9.9	45,800	3,551	2.7	10.1	50,900

Note: Percents may not add to 100 because of rounding. Median salaries computed for full-time civilians only. No median was computed for groups with fewer than 20 individuals reporting salary.

SOURCE: National Science Foundation, *Characteristics of Doctoral Scientists and Engineers in the U.S., 1987*.

TABLE 44

MEDIAN ANNUAL SALARIES OF DOCTORAL SCIENTISTS AND ENGINEERS BY FIELD AND PRIMARY WORK ACTIVITY, 1987

FIELD	TOTAL	RESEARCH & DEVELOPMENT				MANAGEMENT OR ADMIN.			Teaching	Con- sulting	Rprt/Stat/ Comput- ing Activities	Other/No Report
		Total	Basic Research	Applied Research	Develop- ment	Total	of R&D	Other than R&D				
ALL FIELDS	\$49,600	\$50,100	\$47,700	\$50,200	\$53,600	\$61,300	\$67,400	\$55,300	\$44,000	\$56,000	\$46,700	\$50,100
PHYSICAL SCIENTIST	51,400	51,200	50,900	51,400	50,800	65,900	67,400	61,700	44,300	70,300	46,900	53,800
Chemist	50,500	50,300	48,500	50,400	51,500	65,500	65,900	54,900	42,000	72,600	48,000	54,200
Physicists/Astronomer	53,400	53,400	53,000	54,700	49,400	70,100	70,400	67,000	46,800		45,400	51,600
MATH. SCIENTIST	46,600	48,800	48,800	48,300		60,400	70,400	58,700	42,600	45,500	50,400	51,100
Mathematician	46,600	50,600	52,100	49,000		60,200	70,200	59,200	42,300		50,600	47,200
Statistician	46,700	45,100	45,700	42,700					44,400		50,300	
COMPUTER/INFO. SPEC.	54,400	55,300	55,300	55,900	53,500	65,600	70,200	60,800	48,300	54,300	48,100	50,200
ENVIRON. SCIENTIST	50,300	50,000	48,500	50,300		61,700	65,200	56,500	44,100	52,000	45,000	50,700
Earth Scientist	50,800	50,800	50,900	50,800		61,700	65,600	56,700	44,700	52,300	45,600	54,200
Oceanographer	44,300	45,400	44,700	45,200		52,300	52,600	51,400	38,800			
Atmospheric Scientist	50,000	45,700	42,700	48,800		65,600	66,100					
ENGINEER	58,100	55,100	56,100	54,200	55,700	70,100	70,500	65,900	53,000	60,600	48,600	60,600
LIFE SCIENTIST	45,700	44,800	44,200	45,000	45,500	58,800	64,500	53,600	42,000	52,900	41,900	41,900
Biological Scientist	44,500	44,200	43,200	45,200	43,500	57,800	62,400	51,900	40,900	54,400	44,000	38,800
Agricultural Scientist	44,300	42,400	40,500	42,700	42,300	60,800	62,200	57,700	42,200	45,300		40,300
Medical Scientist	50,400	48,400	48,200	48,100	54,100	58,700	66,800	54,900	45,100	54,500	41,400	46,200
PSYCHOLOGIST	44,300	42,800	46,800	40,700		47,500	56,500	45,900	41,200	53,800	45,600	42,200
SOCIAL SCIENTIST	45,300	47,500	47,300	47,500		54,900	59,700	53,100	42,100	55,900	46,100	45,500
Economist	50,800	52,200	52,200	52,200		65,400		65,500	46,600	65,900	55,400	54,700
Soc./Anthropologist	41,700	42,800	44,700	40,600		47,900		48,200	40,300			44,500
Other Social Scientist	44,100	45,300	46,000	44,700		54,100	50,600	51,500	40,900	45,600	37,500	44,300

NOTE: All median salaries were computed only for full-time employed civilians. No median was computed for groups with fewer than 20 individuals reporting salary.

SOURCE: National Science Foundation, *Characteristics of Doctoral Scientists and Engineers in the U.S., 1987*.

TABLE 45

MEDIAN ANNUAL SALARIES OF DOCTORAL SCIENTISTS AND ENGINEERS BY FIELD AND GEOGRAPHIC AREA, 1987

FIELD	Total	New England	Middle Atlantic	E. North Central	W. North Central	South Atlantic	E. South Central	W. South Central	Mountain	Pacific
ALL FIELDS	\$49,600	\$48,800	\$51,200	\$48,800	\$44,400	\$50,400	\$45,000	\$46,100	\$48,200	\$52,400
PHYSICAL SCIENTISTS	51,400	52,800	52,800	50,600	48,400	51,700	46,900	48,500	52,100	55,900
Chemists	50,500	52,800	52,400	50,600	48,800	49,700	46,500	48,700	47,400	54,800
Physicists/Astronomers	53,400	53,500	53,500	50,700	48,100	55,900	47,300	48,000	53,900	59,400
MATHEMATICAL SCIENTISTS	46,600	49,700	49,800	46,700	40,300	48,300	42,200	42,300	45,900	50,800
Mathematicians	46,600	50,700	48,900	46,600	40,200	48,100	40,700	42,400	48,800	50,600
Statisticians	46,700		50,800	47,400	41,300	48,700		41,500		53,800
COMPUTER/INFO. SPEC.	54,400	55,200	55,600	51,500	46,700	54,700	40,500	50,800	53,600	56,700
ENVIRONMENTAL SCIENTISTS	50,300	44,500	51,800	47,300	42,400	53,200	42,600	54,300	50,100	50,800
Earth Scientist	50,800	41,300	57,100	48,200	42,800	53,900	42,300	56,500	50,600	50,500
Oceanographers	44,300	44,900				45,400				48,100
Atmospheric Scientist	50,000					57,500			42,500	61,700
ENGINEERS	58,100	55,700	60,100	56,200	55,000	58,600	52,900	57,900	57,200	60,300
LIFE SCIENTISTS	45,700	45,300	50,000	46,400	43,700	47,300	42,000	42,300	40,700	48,100
Biological Scientists	44,500	44,200	46,700	44,400	44,900	45,300	40,000	39,900	39,600	47,800
Agricultural Scientists	44,300	37,500	46,600	45,400	40,700	48,100	42,200	42,800	40,600	44,700
Medical Scientists	50,400	51,100	55,300	50,600	44,400	50,500	46,000	46,800	45,400	50,600
PSYCHOLOGISTS	44,300	42,700	47,200	42,200	41,200	44,400	42,300	41,100	42,300	48,600
SOCIAL SCIENTISTS	45,300	42,300	46,000	45,400	39,800	49,900	44,200	40,100	43,400	48,700
Economists	50,800	45,100	55,500	50,200	44,600	55,400	46,700	46,800	45,800	54,700
Soc./ Anthropologists	41,700	44,700	41,300	43,600	35,900	41,600	35,400	36,900	39,600	42,700
Other Social Scientists	44,100	41,100	42,900	44,300	39,500	49,400	42,700	37,600	43,100	48,300

NOTE: Median salaries computed only for full-time employed civilians. Blanks indicate no median was computed for groups with fewer than 20 individuals reporting salary.

SOURCE: National Science Foundation, *Characteristics of Doctoral Scientists and Engineers in the U.S., 1987*.

TABLE 46

MEDIAN ANNUAL SALARIES OF DOCTORAL SCIENTISTS AND ENGINEERS BY FIELD, SEX AND RACE, 1987

FIELD	Total	SEX		R A C E				
		Men	Women	White	Black	Am. Indian	Asian	Hispanic
ALL FIELDS	\$49,600	\$50,700	\$40,200	\$49,900	\$42,800	\$45,400	\$50,000	\$47,200
PHYSICAL SCIENTISTS	51,400	52,400	41,900	52,000	43,200		49,100	51,300
Chemists	50,500	51,300	41,500	50,800	43,300		48,800	48,800
Physicists / Astronomers	53,400	53,800	45,500	54,100	42,600		50,600	56,400
MATH. SCIENTISTS	46,600	47,500	39,600	47,300	46,000		41,000	44,800
Mathematicians	46,600	47,500	38,400	46,700	47,000		44,200	45,400
Statisticians	46,700	47,300	42,700	48,800			35,700	
COMPUTER / INFO. SPEC.	54,400	55,400	43,400	54,100			54,400	55,800
ENVIRON. SCIENTISTS	50,300	50,700	41,800	50,300	48,900		51,000	44,400
Earth Scientists	50,800	51,400	41,800	50,700			55,400	46,200
Oceanographers	44,300	44,900	41,100	44,600			42,200	
Atmospheric Scientists	50,000	50,200	44,500	50,000				
ENGINEERS	58,100	58,500	48,200	59,800	44,700		54,300	50,300
LIFE SCIENTISTS	45,700	48,000	39,600	45,900	42,500	45,500	44,800	42,100
Biological Scientists	44,500	46,000	38,600	44,600	43,000		44,000	45,000
Agricultural Scientists	44,300	45,000	36,000	44,500	38,200		40,800	35,400
Medical Scientists	50,400	55,300	41,100	50,600	42,500		47,800	40,900
PSYCHOLOGISTS	44,300	46,200	39,500	44,600	40,100		40,400	43,700
SOCIAL SCIENTISTS	45,300	47,000	39,600	45,600	40,900		45,500	42,500
Economists	50,800	51,500	45,000	51,300	40,800		48,100	56,700
Soc./Anthropologists	41,700	42,700	37,400	42,100	36,100		38,700	37,800
Other Social Scientists	44,100	45,600	39,000	44,200	44,000		44,000	39,800

NOTE: All median salaries were computed only for full-time employed civilians. Blanks indicate no median was computed for groups with fewer than 20 individuals reporting salary.

SOURCE: National Science Foundation, *Characteristics of Recent Science/Engineering Graduates: 1988*, in Press.

TABLE 47

MEDIAN ANNUAL SALARIES OF 1986 AND 1987 SCIENCE/ENGINEERING BACCALAUREATE GRADUATES* BY FIELD OF DEGREE, S/E EMPLOYMENT STATUS AND SEX, 1988

FIELD OF DEGREE	TOTAL EMPLOYED			SCIENCE/ENGINEERING EMPLOYED			NON-SCIENCE/ENGINEERING EMPLOYED		
	Total	Men	Women	Total	Men	Women	Total	Men	Women
TOTAL	\$25,100	\$27,000	\$22,000	\$27,500	\$28,500	\$24,000	\$21,100	\$23,000	\$19,100
Physical Sciences	24,000	24,000	23,000	24,000	24,100	23,700	22,000	23,800	18,200
Chemistry	23,700	24,000	23,000	23,800	24,000	23,700	23,000	24,000	
Physics/Astronomy	25,700	25,700		26,000	26,000				
Other Physical Sciences	21,900	21,900		22,000	22,000				
Math/Statistics	24,400	25,000	22,900	25,600	26,900	24,000	20,000	20,000	20,000
Computer Sciences	28,000	28,100	27,500	28,500	28,900	28,000	24,000	25,000	22,900
Environmental Sciences	22,000	22,000	22,000	22,900	22,800	23,900	20,000	20,000	
Engineering	30,000	30,000	30,000	30,000	30,000	30,000	26,000	26,500	25,700
Life Sciences	19,500	20,000	19,000	20,000	20,000	20,000	18,500	18,500	19,000
* Biology	19,500	19,500	19,600	20,000	20,000	20,000	18,300	18,000	19,000
Agricultural Sciences	19,600	20,000	17,400	19,600	20,000	18,000	19,800	20,000	17,000
Psychology	19,100	23,000	18,000	19,400		18,000	19,000	22,900	18,000
Social Sciences	21,900	23,200	20,000	21,000	23,000	20,000	22,400	24,000	20,100
Economics	23,000	25,000	21,000	22,500	25,000	21,100	24,000	25,000	20,500
Sociology/Anthropology	18,400	19,500	18,000	18,400			18,800		18,000
Other Social Sciences	22,000	22,400	20,100	20,000	21,100		22,900	22,900	22,900

*Excludes individuals enrolled full-time in graduate school. NOTES: Median annual salaries computed only for full-time employed civilians. Blanks indicate no median computed for groups with fewer than 20 individuals reporting salaries.

SOURCE: National Science Foundation, *Characteristics of Recent Science/Engineering Graduates: 1988*, in Press.

TABLE 48

MEDIAN ANNUAL SALARIES OF 1986 AND 1987 SCIENCE/ENGINEERING MASTER'S DEGREE GRADUATES* BY FIELD OF DEGREE, S/E EMPLOYMENT STATUS AND SEX, 1988

FIELD OF DEGREE	TOTAL EMPLOYED			SCIENCE/ENGINEERING EMPLOYED			NON-SCIENCE/ENGINEERING EMPLOYED		
	Total	Men	Women	Total	Men	Women	Total	Men	Women
TOTAL	\$34,900	\$35,900	\$31,000	\$35,300	\$36,100	\$32,100	\$26,100	\$28,200	\$24,400
Physical Sciences	30,100	32,000	29,000	30,100	32,000	29,000	33,900		
Chemistry	30,000	30,000	30,000	30,000	30,000	30,000			
Physics/Astronomy	34,000	34,000		34,000	34,800				
Other Physical Sciences	29,000	29,800	25,100	28,500	29,400	25,000			
Math/Statistics	34,200	37,000	31,200	34,900	38,000	31,200	30,000		
Computer Sciences	40,000	40,200	37,200	40,000	40,200	37,800	35,000		
Environmental Sciences	31,000	32,100	26,100	31,700	32,100	27,600			
Engineering	37,900	38,000	37,900	38,000	38,000	38,100	35,900	35,000	
Life Sciences	25,000	24,100	25,000	25,000	24,000	25,100	24,000	25,000	20,000
Biology	25,000	25,100	25,000	25,600	26,000	25,100	25,000		
Agricultural Sciences	23,000	23,500	20,600	23,000	23,000	23,500	19,100		
Psychology	22,000	22,000	22,000	21,900		24,000	23,900		
Social Sciences	26,100	27,700	24,000	26,100	27,000	25,000	26,000	31,800	24,000
Economics	30,000	30,100		30,100	31,800				
Sociology/Anthropology	26,000								
Other Social Sciences	25,000	27,000	24,000	25,000	24,300	25,000	25,100	39,000	24,000

*Excludes individuals enrolled full-time in graduate school. NOTES: Median annual salaries computed only for full-time employed civilians. Blanks indicate no median computed for groups with fewer than 20 individuals reporting salaries.

SOURCE: National Science Foundation, *Characteristics of Recent Science/Engineering Graduates: 1988*, in Press.

TABLE 49

MEDIAN ANNUAL SALARIES OF 1986 AND 1987 SCIENCE/ENGINEERING GRADUATES* BY FIELD AND LEVEL OF DEGREE AND TYPE OF EMPLOYER, 1988

FIELD OF DEGREE	TOTAL		TYPE OF EMPLOYER							
			Business & Industry		Educational Institutions		Federal Government		State & Local Governments	
	Bachelor's	Master's	Bachelor's	Master's	Bachelor's	Master's	Bachelor's	Master's	Bachelor's	Master's
TOTAL	\$25,100	\$34,900	\$26,900	\$37,900	\$20,100	\$27,000	\$25,000	\$30,100	\$22,500	\$26,900
Physical Sciences	24,000	30,100	25,000	33,500	21,900	25,700	24,000	32,000	20,600	24,000
Chemistry	23,700	30,000	25,000	32,000	21,400	28,000				
Physics/Astronomy	25,700	34,000	27,000	36,700						
Other Physical Sciences	21,900	29,000	21,900	37,000		26,900				
Math/Statistics	24,400	34,200	26,600	38,000	21,800	29,900	22,700			
Computer Sciences	28,000	40,000	28,600	40,100	22,000	32,100	27,000		24,000	
Environmental Sciences	22,000	31,000	22,900	32,900		26,900		23,000		24,000
Engineering	30,000	37,900	30,100	38,200	25,600	35,600	30,000		27,000	
Life Sciences	19,500	25,000	20,100	28,000	18,400	24,000	15,200		17,400	20,500
Biology	19,500	25,000	20,400	28,900	18,500	25,000				
Agricultural Sciences	19,600	23,000	20,100	26,000	17,800		15,500		18,000	20,500
Psychology	19,100	22,000	22,000		20,100					
Social Sciences	21,900	26,100	22,500	32,900	22,900	25,000	21,000	24,600	23,800	26,900
Economics	23,000	30,000	23,500	34,900						
Sociology/Anthropology	18,400	26,000	19,000							
Other Social Sciences	22,000	25,000	22,900	33,000		24,000				

* Excludes individuals enrolled full-time in graduate school. NOTES: Median annual salaries computed only for full-time employed civilians. Blanks indicate no median computed for groups with fewer than 20 individuals reporting salaries.

TABLE 50

**MEDIAN ANNUAL SALARIES OF 1986 AND 1987 SCIENCE/ENGINEERING BACHELOR'S AND MASTERS DEGREE GRADUATES*
BY FIELD OF STUDY, DEGREE LEVEL AND PRIMARY WORK ACTIVITY, 1988**

FIELD OF STUDY	TOTAL		PRIMARY WORK ACTIVITY									
			Research & Development		Management/ Administration		Production Inspection		Rep/Stat/ Computing Act.		Teaching	
	Bachelor's	Master's	Bachelor's	Master's	Bachelor's	Master's	Bachelor's	Master's	Bachelor's	Master's	Bachelor's	Master's
TOTAL	\$25,100	\$34,900	\$28,500	\$36,900	\$24,000	\$38,100	\$26,000	\$35,000	\$26,100	\$33,900	\$20,100	\$26,900
Physical Sciences	24,000	30,100	26,000	32,100	24,300	34,000	22,000	28,000	23,800	30,000	21,500	25,700
Chemistry	23,700	30,000	25,500	30,000	24,000	33,900	21,100	28,000	22,500		21,500	
Physics/Astronomy	25,700	34,000	30,000	34,900	37,600		24,000		24,000		25,600	
Other Physical Sciences	21,900	29,000	22,000	37,000	23,400		20,100		16,800		19,100	27,500
Math/Statistics	24,400	34,200	27,900	37,700	25,000	43,900	23,000		26,900	33,800	21,100	29,800
Computer Sciences	28,000	40,000	30,000	40,600	30,000	44,500	26,500		27,000	36,400	25,000	35,000
Environmental Sciences	22,000	31,000	14,000	30,000	26,000	30,000	21,000	35,300	24,000	28,900	15,000	
Engineering	30,000	37,900	30,800	39,600	30,000	42,100	29,800	37,900	29,700	36,100	25,700	22,300
Life Sciences	19,500	25,000	18,400	23,500	21,000	22,900	20,000		17,900	19,700	20,000	25,900
Biology	19,500	25,000	18,300	23,400	18,000		20,000		16,400		20,000	26,000
Agricultural Sciences	19,600	23,000	18,600	23,600	21,900	22,000	18,000		18,300		15,000	
Psychology	19,100	22,000	15,000		19,000		17,900		24,000		20,000	
Social Sciences	21,900	26,100	20,100		22,700	26,400	21,900		21,000	26,900	19,200	24,300
Economics	23,000	30,000	23,000		21,900		24,000		21,100		19,300	
Sociology/Anthropology	18,400	26,000	14,500		20,100		27,900		23,000		17,500	
Other Social Sciences	22,000	25,000	20,100		22,900	25,100	18,200		18,800		23,900	24,400

*Excludes individuals enrolled full-time in graduate school. NOTES: Median annual salaries computed only for full-time employed civilians. Blanks indicate no median computed for groups with fewer than 20 individuals reporting salaries.

SOURCE: National Science Foundation, *Characteristics of Recent Science/Engineering Graduates: 1988*, in Press.

TABLE 51

MEDIAN ANNUAL SALARIES OF 1986 AND 1987 SCIENCE/ENGINEERING GRADUATES* BY FIELD, RACIAL/ETHNIC GROUP AND DEGREE LEVEL, 1988

RACIAL/ETHNIC GROUP	FIELD		
	Total S/E Fields	Total Sciences	Total Engineering
ALL GROUPS			
Bachelor's	\$25,000	\$22,900	\$30,000
Master's	34,900	32,100	37,900
WHITE			
Bachelor's	25,100	23,000	30,000
Master's	34,900	32,000	38,000
BLACK			
Bachelor's	23,000	22,000	29,100
Master's	33,600	30,000	38,000
ASIAN			
Bachelor's	27,500	24,000	30,000
Master's	35,800	35,900	35,300
HISPANIC			
Bachelor's	25,000	22,300	29,200
Master's	34,000	34,000	32,100

*Excludes individuals enrolled full-time in graduate school. NOTES: Median annual salaries computed only for full-time employed civilians. Blanks indicate no median computed for groups with fewer than 20 individuals reporting salaries.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Occupational & Educational Outcomes of 1985-86 Bachelor's Degree Recipients*, August 1989

TABLE 52

**AVERAGE ANNUAL SALARY OF 1985-86 BACHELOR'S
DEGREE RECIPIENTS IN JUNE 1987 BY OCCUPATIONAL AREA**

OCCUPATIONAL AREA	Salary
Engineering	\$28,000
Computer Science, Mathematics & Physical Science	24,200
Health Professional	22,900
Business Manager	21,300
Public Affairs/Social Services	14,600
Education	14,500
Engineering Technician	20,600
Biological Science	16,000
Biological Technician	15,600

TABLE 53

**AVERAGE ANNUAL SALARY OF 1985-86 BACHELOR'S
DEGREE RECIPIENTS IN JUNE 1987 BY MAJOR FIELDS
OF STUDY**

MAJOR FIELDS OF STUDY	Salary
Engineering	\$26,600
Health Professions	22,600
Physical Science, Mathematics & Computer Sciences	22,500
Business/Management	21,100
Social Sciences	20,300
Public Affairs/Social Services	17,700
Psychology	17,300
Biological Sciences	16,400
Humanities	16,200
Education	15,800
TOTAL	20,300

SOURCE: Abbott, Langer & Associates, *Compensation and Benefits in Research and Development, 1989.*

TABLE 54

MEAN AND MEDIAN ANNUAL SALARIES OF SCIENTISTS & ENGINEERS ENGAGED IN RESEARCH & DEVELOPMENT ACTIVITIES BY
JOB POSITION & DISCIPLINE, 1988

DISCIPLINE	JOB POSITION									
	Directors ¹		Managers ²		Section Heads ³		Unit Supervisors ⁴		R&D Specialists ⁵	
	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median
ENGINEERING	\$68,808	\$66,000	\$57,361	\$57,733	\$47,618	\$46,800	\$50,481	\$50,171	\$43,032	\$40,711
Aeronautical / Aerospace	79,484	79,726							50,530	50,000
Ceramic Engineering									43,480	42,500
Chemical Engineering	57,365	53,717	48,917	47,760	48,316	47,395	49,010	52,780	37,355	35,902
Civil Engineering									49,061	44,298
Electrical/Electronic Engrg.	77,708	75,000	63,235	65,150	50,341	51,000	52,354	52,000	43,064	41,400
Engineering Technology									36,839	34,800
Materials Engineering	79,866	76,466			46,920	46,800			41,985	38,045
Mechanical Engineering	59,866	57,000	46,952	46,872	37,591	36,000	45,519	44,146	41,166	38,000
Metallurgical Engineering									48,714	48,000
Nuclear / Reactor Engrg.									43,534	29,938
PHYSICAL SCIENCES	59,966	56,000	56,072	55,000	46,089	49,010	47,454	45,000	42,574	40,000
Astronomy									36,649	31,500
Chemistry	53,142	51,922	54,753	55,000	43,479	41,730	48,384	45,000	42,393	40,000
Earth Science									31,059	29,124
Physics	76,915	65,160	60,404	59,525	50,603	50,700			50,809	50,244
Computer Science	64,194	62,750	62,646	65,647					40,503	37,776
Mathematics & Statistics									44,849	45,350
LIFE SCIENCES	77,421	68,000	53,971	52,250	44,137	41,000	41,322	39,050	35,106	32,600
Argiculture	53,042	46,865							35,890	36,934
Biochemistry	60,156	60,000	67,607	72,000	48,564	43,181	40,637	38,200	33,243	30,000
Biology	64,861	68,000	54,532	52,582			44,249	45,000	35,601	38,100
Medicine / Osteopathy	87,531	85,200							25,839	19,500
Psychology									41,062	39,000

¹ Scientists, engineers or technologists whose responsibilities range from primarily managerial to primarily performing research and/or development, depending upon level.

² Scientists, engineers or technologists whose responsibilities range from devoting a major portion of time to supervisory and/or administrative functions while performing individual research and/or development to devoting a small portion of time to supervisory and/or administrative functions and continuing to do individual research and/or development.

³ Scientists, engineers or technologists who continue to do individual research and/or development but vary their time devoted to supervisory and administrative responsibilities from significant to small.

⁴ Scientists, engineers or technologists, commonly designated as project leaders doing individual research and supervising under 10.

⁵ Scientists, engineers or technologists whose range of responsibilities vary from conducting independent research and/or development to conducting R&D work under frequent direction.

TABLE 55

MEAN AND MEDIAN ANNUAL SALARIES OF SCIENTISTS & ENGINEERS ENGAGED IN RESEARCH & DEVELOPMENT ACTIVITIES BY
JOB POSITION & METROPOLITAN AREA, JANUARY 1988

METROPOLITAN AREA	JOB POSITION									
	Directors ¹		Managers ²		Section Heads ³		Unit Supervisors ⁴		R&D Specialists ⁵	
	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median
Atlanta (GA) & Vicinity	\$	\$	\$	\$	\$	\$	\$	\$	\$41,945	\$43,500
Baltimore (MD) & Vicinity			62,620	61,590	49,633	50,050			46,599	44,330
Boston (MA) & Vicinity	51,999	55,000	69,714	72,000	47,494	41,000				
Chicago (IL) & Vicinity	58,500	56,000								
Cincinnati (OH) & Vicinity			48,770	52,250						
Cleveland (OH) & Vicinity			57,490	56,730					36,634	37,728
Dallas/Ft. Worth (TX) & Vicinity					48,000	45,000	45,702	45,138	29,375	30,000
Dayton (OH) & Vicinity					52,379	53,950			42,563	41,240
Detroit (MI) & Vicinity									40,571	42,000
Hartford (CT) & Vicinity			65,490	65,033			53,168	56,433	38,395	36,300
Houston (TX) & Vicinity	62,629	57,000							45,399	44,040
Kansas City (MO/KS) & Vicinity			49,086	55,000					26,054	26,000
Los Angeles/San Diego (CA) & Vicinity	64,457	65,000	49,534	46,000	35,095	35,000	55,330	63,918	44,385	45,882
Milwaukee (WI) & Vicinity			47,172	63,500						
Minneapolis/St. Paul (MN/WI) & Vicinity	55,250	50,000							38,667	37,000
New York City (NY/NJ) & Vicinity			76,714	65,500						
Norfolk/Virginia Beach Portsmouth (VA/NC) & Vicinity	164,200	200,000								
Oaklahoma City (OK) & Vicinity	77,428	81,000	53,339	49,750						
Portland (OR) & Vicinity	67,585	80,000	37,600	36,780	35,880	38,004			27,214	27,000
Salt Lake City/Ogden (UT) & Vicinity									44,090	45,000
San Francisco/Oakland (CA) & Vicinity	64,381	60,000			54,467	51,700			35,245	37,016
San Jose (CA) & Vicinity									45,728	52,372
Seattle/Everett (WA) & Vicinity	65,298	64,000					37,960	35,942		
Tampa/St. Petersburg (FL) & Vicinity			26,800	25,000						
Washington (DC/MD/VA) & Vicinity	77,700	78,585	63,071	67,587	38,800	40,235	60,549	58,552	45,956	43,888

- 1 Scientists, engineers or technologists whose responsibilities range from primarily managerial to primarily performing research and/or development, depending upon level.
- 2 Scientists, engineering or technologists whose responsibilities range from devoting a major portion of time to supervisory and/or administrative functions while performing individual research and/or development to devoting a small portion of time to supervisory and/or development.
- 3 Scientists, engineers or technologists who continue to do individual research and/or development but vary their time devoted to supervisory and administrative responsibilities from 'significant' to 'small.'
- 4 Scientists, engineers or technologists, commonly designated as 'project leaders' doing individual research and supervising under 10.
- 5 Scientists, engineers or technologists who range of responsibilities vary from conducting independent research and/or development to conducting R&D work under frequent direction.

SOURCE: Abbott, Langer & Associates, *Compensation and Benefits in Research and Development, 1989*.

TABLE 56

MEAN AND MEDIAN ANNUAL SALARIES OF SCIENTISTS & ENGINEERS ENGAGED IN RESEARCH & DEVELOPMENT ACTIVITIES
BY JOB POSITION AND SELECTED STATES, 1988

STATE	J O B P O S I T I O N									
	Directors ¹		Managers ²		Section Heads ³		Unit Supervisors ⁴		R&D Specialists ⁵	
	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median
California	\$63,930	\$51,700	\$48,681	\$46,000	\$43,467	\$44,520	\$52,854	\$57,880	\$41,443	\$42,368
Connecticut			65,490	65,033			53,168	56,433	40,581	39,109
Florida			29,233	25,000					32,066	25,000
Georgia									41,945	43,500
Idaho									39,591	40,000
Illinois	53,513	52,500	53,890	55,000			41,395	45,000	66,962	75,000
Kansas									25,415	24,980
Maryland	78,663	81,800	61,033	61,590	48,220	49,010			44,589	43,030
Massachusetts	51,999	55,000	69,714	72,000	47,494	41,000			24,929	22,000
Michigan	55,526	60,159	52,705	46,404			51,221	52,780	37,119	34,800
Minnesota	55,250	50,000							31,188	29,124
Montana									30,669	30,000
Nebraska									36,323	36,056
New Jersey									43,445	38,000
New York	73,676	83,180	65,954	65,500					48,197	45,753
Ohio	68,955	68,203	56,817	56,688	49,468	51,450	45,702	45,138	39,108	37,698
Oklahoma	77,428	81,000	53,339	49,750					28,663	26,002
Oregon	70,827	80,000	38,525	38,610	41,900	39,222			38,644	37,250
Pennsylvania	59,857	70,700	65,295	66,300					42,776	41,100
Texas	84,470	87,768	62,779	56,544	45,400	45,000			43,662	36,934
Utah	64,555	66,000	56,879	56,291					41,958	42,500
Washington	64,398	60,000					37,960	35,942	34,649	34,729
Wisconsin	52,601	53,951	47,529	41,600	46,334	55,238	51,128	45,000	34,418	34,899

1 Scientists, engineers or technologists whose responsibilities range from primarily managerial to primarily performing research and/or development, depending upon level.

2 Scientists, engineers or technologists whose responsibilities range from devoting a major portion of time to supervisory and/or administrative functions while performing individual research and/or development to devoting a small portion of time to supervisory and/or administrative functions and continuing to do individual research and/or development.

3 Scientists, engineers or technologists who continue to do individual research and/or development but vary their time devoted to supervisory and administrative responsibilities from significant to small.

4 Scientists, engineers or technologists, commonly designated as project leaders doing individual research and supervising under 10.

5 Scientists, engineers or technologists whose range of responsibilities vary from conducting independent research and/or development to conducting R&D work under frequent direction.

SOURCE: Abbott, Langer & Associates, *Compensation and Benefits in Research and Development, 1989*.

TABLE 57

MEAN AND MEDIAN ANNUAL SALARIES OF SCIENTISTS & ENGINEERS ENGAGED IN RESEARCH & DEVELOPMENT
ACTIVITIES BY JOB POSITION & GEOGRAPHIC REGION, 1988

GEOGRAPHIC REGION	JOB POSITION									
	Directors ¹		Managers ²		Section Heads ³		Unit Supervisors ⁴		R&D Specialists ⁵	
	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median
NORTHEASTERN STATES	\$60,534	\$57,300	\$65,704	\$66,100	\$47,441	\$41,000	\$50,879	\$54,084	\$42,167	\$40,650
SOUTHERN STATES	99,057	83,000	57,619	60,320	47,378	49,010	54,606	56,472	42,392	41,600
MIDWESTERN STATES	58,325	55,478	53,630	55,000	45,062	43,590	45,968	45,000	43,017	37,728
NORTH CENTRAL STATES	51,614	50,000	41,892	39,000	36,453	34,000	35,282	31,000	30,794	28,920
SOUTHWESTERN STATES	81,709	84,600	60,419	55,000	43,848	45,000			41,095	36,857
MOUNTAIN STATES	61,716	60,200	58,388	60,503	38,251	32,105	40,996	40,000	39,773	40,000
PACIFIC STATES	65,171	64,300	46,548	45,000	44,412	42,480	48,005	46,202	39,420	40,000

¹ Scientists, engineers or technologists whose responsibilities range from primarily managerial to primarily performing research and/or development, depending upon level.

² Scientists, engineers or technologists whose responsibilities range from devoting a major portion of time to supervisory and/or administrative functions while performing individual research and/or development to devoting a small portion of time to supervisory and/or administrative functions and continuing to do individual research and/or development.

³ Scientists, engineers or technologists who continue to do individual research and/or development but vary their time devoted to supervisory and administrative responsibilities from significant to small.

⁴ Scientists, engineers or technologists, commonly designated as project leaders doing individual research and supervising under 10.

⁵ Scientists, engineers or technologists whose range of responsibilities vary from conducting independent research and/or development to conducting R&D work under frequent direction.

SOURCE: Abbott, Langer & Associates, *Compensation and Benefits in Research and Development*, 1989.

TABLE 58

MEAN AND MEDIAN ANNUAL SALARIES OF SCIENTISTS & ENGINEERS ENGAGED IN RESEARCH & DEVELOPMENT ACTIVITIES
BY JOB POSITION AND LENGTH OF EXPERIENCE, 1988

LENGTH OF EXPERIENCE	J O B P O S I T I O N									
	Directors ¹		Managers ²		Section Heads ³		Unit Supervisors ⁴		R&D Specialists ⁵	
	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median
Under One Year	\$	\$	\$	\$	\$	\$	\$	\$	\$26,281	\$26,400
One or Two Years	36,822	35,423	55,053	50,470	32,786	31,000	35,947	37,951	29,534	29,900
Three or Four Years	32,333	29,500	45,264	41,386	32,867	32,000	35,248	34,500	33,440	33,810
Five Thru Nine Years	58,723	56,000	48,576	48,728	44,170	44,260	44,602	45,284	40,545	40,000
10 Thru 14 Years	58,190	55,000	58,044	55,000	49,038	50,466	47,560	45,000	47,724	47,260
15 Thru 19 Years	67,941	64,500	55,681	56,316	53,330	52,650	55,780	63,918	55,407	51,687
20 Thru 24 Years	89,467	77,000	60,756	62,010	55,114	60,000	51,285	51,521	53,620	54,000
25 Thru 29 Years	74,970	63,660	67,090	65,500			55,274	49,548	56,765	57,000
30 Years or More	69,383	72,000	61,839	61,503					56,729	58,850

¹ Scientists, engineers or technologists whose responsibilities range from primarily managerial to primarily performing research and/or development, depending upon level.

² Scientists, engineers or technologists whose responsibilities range from devoting a major portion of time to supervisory and/or administrative functions while performing individual research and/or development to devoting a small portion of time to supervisory and/or administrative functions and continuing to do individual research and/or development.

³ Scientists, engineers or technologists who continue to do individual research and/or development but vary their time devoted to supervisory and administrative responsibilities from significant to small.

⁴ Scientists, engineers or technologists, commonly designated as project leaders doing individual research and supervising under 10.

⁵ Scientists, engineers or technologists whose range of responsibilities vary from conducting independent research and/or development to conducting R&D work under frequent direction.

SOURCE: Abbott, Langer & Associates, *Compensation and Benefits in Research and Development, 1989.*

TABLE 59

MEAN AND MEDIAN ANNUAL SALARIES OF SCIENTISTS & ENGINEERS ENGAGED IN RESEARCH & DEVELOPMENT ACTIVITIES
BY JOB POSITION & TYPE OF EMPLOYER, 1988

TYPE OF EMPLOYER	JOB POSITION									
	Directors ¹		Managers ²		Section Heads ³		Unit Supervisors ⁴		R&D Specialists ⁵	
	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median
All Manufacturing Organizations	\$59,718	\$55,478	\$51,597	\$52,464	\$43,713	\$43,128	\$47,534	\$50,025	\$37,997	\$37,004
Aerospace / Aircraft / Electrical/Electronics Mfg.	74,085	73,500	59,951	65,500	47,707	46,114	55,690	63,918	39,604	40,000
Chemical / Pharmaceutical / Plastics / Rubber Manufacturers	63,714	55,000	56,372	55,600	45,101	45,000	48,881	52,780	37,806	36,300
Fabricated Metal Products Mfg.	46,676	48,000	33,497	29,550					37,150	38,000
Food, Beverage & Tobacco Products Manufacturers	48,187	50,000	40,649	41,424					31,746	32,448
Machinery & Heavy Equipment Mfg.			57,359	56,688			45,702	45,138	35,741	37,560
Measuring & Controlling Devices Manufacturers							45,508	44,500	37,377	38,000
Medical & Scientific Equip. Mfg.	56,200	52,500	33,808	28,000					35,805	36,420
All Non-Mfg. Organizations	76,789	70,700	58,731	55,000	46,291	46,800	45,568	45,000	42,683	39,800
Educational Institutions	87,354	63,124	57,506	55,000	33,400	32,000	43,736	45,000	44,337	36,934
Contract Research Centers	68,432	65,160	56,820	57,785	49,000	49,010	39,036	39,470	41,577	38,620

1 Scientists, engineers or technologists whose responsibilities range from primarily managerial to primarily performing research and/or development, depending upon level

2 Scientists, engineers or technologists whose responsibilities range from devoting a major portion of time to supervisory and/or administrative functions while performing individual research and/or development to devoting a small portion of time to supervisory and/or administrative functions and continuing to do research and / or development .

3 Scientists , engineers or technologists who continue to do individual research and /or development but vary their time devoted to supervisory and administrative responsibilities from significant to small.

4 Scientists, engineers or technologists, commonly designated as project leaders doing individual research and supervising under 10.

5 Scientists, engineers or technologists whose range of responsibilities vary from conducting independent research and /or development to conducting R&D work under frequent direction.

SOURCE: Abbott, Langer & Associates, *Compensation and Benefits in Research and Development, 1989.*

TABLE 60

MEAN AND MEDIAN ANNUAL SALARIES OF SCIENTISTS & ENGINEERS ENGAGED IN RESEARCH & DEVELOPMENT ACTIVITIES
BY JOB POSITION & WORK FUNCTION, 1988

WORK FUNCTION	JOB POSITION									
	Directors ¹		Managers ²		Section Heads ³		Unit Supervisors ⁴		R&D Specialists ⁵	
	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median
Pure Research	\$65,066	\$60,000	\$54,989	\$55,000	\$46,311	\$46,166	\$44,638	\$45,000	\$40,154	\$32,550
Applied Research	59,622	62,400	46,625	44,340	49,364	45,000	47,715	50,655	34,211	32,353
Development	96,661	75,000	52,873	53,328	39,039	35,000	46,433	45,138	37,771	36,934
Research & Development	66,345	62,917	58,954	61,590	45,289	45,630	47,542	50,400	42,428	40,000

TABLE 61

MEAN AND MEDIAN ANNUAL SALARIES OF SCIENTISTS & ENGINEERS ENGAGED IN RESEARCH & DEVELOPMENT ACTIVITIES
BY JOB POSITION & LEVEL OF EDUCATION, 1988

LEVEL OF EDUCATION	JOB POSITION									
	Directors ¹		Managers ²		Section Heads ³		Unit Supervisors ⁴		R&D Specialists ⁵	
	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median
No College	\$	\$	\$30,976	\$28,000	\$36,797	\$36,504	\$	\$	\$41,448	\$44,544
Some College, No Degree	53,333	54,500							33,051	30,700
A.A. (2 Year) Degree							40,378	41,000	32,596	34,000
Bachelor's Degree	57,799	57,250	52,921	55,000	37,048	36,808	48,671	50,146	39,539	37,400
Master's Degree	61,222	53,000	58,541	63,406	49,270	50,050	48,449	45,000	41,029	40,000
Doctorate	69,249	67,054	61,344	61,006	50,086	50,050	46,647	45,152	48,345	45,753

- 1 Scientists, engineers or technologists whose responsibilities range from primarily managerial to primarily performing research and/or development, depending upon level.
- 2 Scientists, engineers or technologists whose responsibilities range from devoting a major portion of time to supervisory and/or administrative functions while performing individual research and/or development to devoting a small portion of time to supervisory and/or administrative functions and continuing to do individual research and/or development.
- 3 Scientists, engineers or technologists who continue to do individual research and/or development but vary their time devoted to supervisory and administrative responsibilities from significant to small.
- 4 Scientists, engineers or technologists, commonly designated as "project leaders" doing individual research and supervising under 10.
- 5 Scientists, engineers or technologists whose range of responsibilities vary from conducting independent research and/or development to conducting R&D work under frequent direction.

SOURCE: The Hay Group, Prepared for the U.S. Department of Energy, 1989 Participant Report - *National Compensation Survey of Research and Development Scientists and Engineers*, May 1989

TABLE 62

NUMBER AND MEAN MONTHLY SALARIES OF BACHELOR'S DEGREE NONSUPERVISORY SCIENTISTS & ENGINEERS BY WORKING-AS-OCCUPATION AND SELECTED YEARS SINCE FIRST DEGREE, 1989

WORKING-AS-OCCUPATION	SELECTED YEARS SINCE FIRST DEGREE										
	2	4	7	10	13	15	18	21	24-25	30-31	TOTAL*
Aeronautical & Astronautical Engineering	(20) \$2,634	(18) \$3,044	(10) \$3,360	(7) \$3,607	\$	\$	\$	(9) \$4,554	(18) \$4,365	(24) \$4,865	(392) \$3,679
Chemical Engineering	(59) 2,796	(65) 3,038	(42) 3,466	(20) 3,693	(7) 4,118	(9) 4,259	(12) 3,992	(7) 4,299	(11) 4,925	(10) 4,532	(688) 3,460
Electrical & Electronic Engineering	(261) 2,848	(305) 3,142	(179) 3,558	(95) 3,910	(61) 4,186	(50) 4,286	(50) 4,275	(38) 4,783	(52) 4,761	(102) 4,891	(3,626) 3,680
Materials Engineering	(8) 2,644	(11) 2,991	(11) 3,258	(6) 3,548	(3) 3,180	(6) 4,054	(4) 3,837	(4) 4,044	(4) 5,087	(8) 4,340	(266) 3,650
Mechanical Engineering	(72) 2,705	(57) 2,963	(55) 3,444	(48) 3,642	(21) 3,974	(21) 4,189	(18) 4,221	(13) 4,613	(30) 4,435	(36) 4,829	(1,262) 3,711
Metallurgical Engineering	(5) 2,379	(7) 2,653				(3) 3,300				(7) 4,491	(89) 3,809
Nuclear & Reactor Engineering	(74) 2,640	(88) 2,886	(59) 3,360	(44) 3,735	(19) 4,152	(19) 4,223	(22) 4,353	(24) 4,777	(35) 4,605	(19) 4,905	(1,137) 3,666
Ocean Science Engineering	(7) 2,801	(6) 3,408	(5) 3,523						(5) 5,323		(90) 3,362
Sanitary Engineering	(5) 2,183	(3) 1,930	(4) 3,385		(4) 3,946						(63) 3,198
Other Engineering	(6) 2,779	(11) 3,147	(13) 3,276		(5) 3,928	(3) 4,153	(5) 4,730			(5) 4,981	(183) 3,927
Biological Sciences	(5) 2,086	(18) 2,243	(17) 2,657	(19) 2,732	(19) 3,007	(11) 3,397	(3) 3,280	(6) 3,228	(13) 2,727	(8) 3,089	(351) 2,891
Atmospheric, Earth, Marine & Space Sciences	(4) 2,231	(10) 2,722		(6) 3,179		(4) 3,455			(4) 5,452		(143) 3,251
Chemistry	(56) 2,261	(53) 2,457	(68) 3,113	(63) 3,315	(53) 3,663	(30) 3,588	(36) 4,158	(30) 4,428	(42) 4,215	(34) 4,357	(1,425) 3,461
Computer Sciences	(257) 2,760	(272) 3,104	(164) 3,655	(89) 4,002	(51) 4,309	(37) 4,394	(34) 4,516	(24) 4,530	(18) 4,431	(13) 4,678	(2,637) 3,427
Mathematics	(20) 2,822	(24) 3,008	(13) 3,192	(17) 3,993	(7) 4,221	(10) 4,033		(11) 4,466	(16) 4,421	(15) 5,192	(364) 3,946
Physics	(38) 2,675	(36) 2,948	(24) 3,241	(23) 3,487	(11) 3,884	(10) 3,594	(9) 3,910	(7) 4,713	(18) 4,729	(26) 4,647	(637) 3,910
Statistics	(4) 2,402	(3) 2,576			(3) 3,840						(53) 3,525

*Total includes all years since first degree.

NOTE: Numbers in parenthesis are survey respondents.

SOURCE: The Hay Group, Prepared for the U.S. Department of Energy, 1989 Participant Report - National Compensation Survey of Research and Development Scientists and Engineers, May 1989

TABLE 63

NUMBER AND MEAN MONTHLY SALARIES OF MASTER'S DEGREE NONSUPERVISORY SCIENTISTS & ENGINEERS BY WORKING-AS-OCCUPATION AND SELECTED YEARS SINCE FIRST DEGREE, 1989

WORKING-AS-OCCUPATION	SELECTED YEARS SINCE FIRST DEGREE										
	2	4	7	10	13	15	18	21	24-25	30-31	TOTAL*
Aeronautical & Astronautical Engineering	(21) \$3,093	(17) \$3,458	(18) \$3,650	(10) \$4,008	(17) \$4,107	(5) \$4,245	(5) \$4,033	(7) \$5,176	(31) \$5,029	(22) \$5,375	(463) \$4,275
Chemical Engineering	(4) 2,871	(14) 3,079	(27) 3,372	(18) 3,497	(12) 3,984	(14) 4,093	(10) 4,197	(5) 4,541	(11) 4,815	(8) 5,281	(349) 3,932
Civil Engineering			(3) 3,499		(3) 4,784		(3) 4,734			(3) 5,155	(51) 4,521
Electrical & Electronic Engineering	(62) 3,309	(104) 3,588	(97) 3,946	(91) 4,288	(52) 4,582	(59) 4,721	(41) 4,850	(55) 5,049	(95) 5,020	(85) 5,295	(2,342) 4,500
Materials Engineering	(4) 2,643	(6) 3,155	(13) 3,658	(3) 3,401	(8) 3,709	(3) 3,740	(7) 4,269	(5) 4,712	(8) 4,897	(7) 4,416	(200) 4,068
Mechanical Engineering	(24) 3,003	(39) 3,230	(24) 3,642	(37) 3,805	(19) 4,064	(23) 4,368	(13) 4,411	(13) 4,780	(21) 4,856	(23) 5,094	(715) 4,251
Metallurgical Engineering			(6) 3,208	(3) 3,812	(5) 4,159					(5) 4,605	(75) 4,239
Nuclear & Reactor Engineering	(34) 2,885	(22) 3,049	(29) 3,663	(27) 3,992	(33) 3,792	(47) 4,199	(23) 4,308	(19) 4,479	(30) 4,753	(11) 4,954	(793) 4,156
Sanitary Engineering	(5) 2,867		(3) 2,676	(5) 3,476	(4) 3,621	(8) 4,073	(3) 4,375				(70) 3,743
Other Engineering		(4) 3,037	(6) 3,600		(7) 3,886	(5) 4,541	(5) 4,156	(4) 4,608	(9) 4,626	(7) 5,081	(145) 4,453
Biological Sciences		(5) 2,638	(12) 2,438	(11) 3,057	(20) 3,282	(9) 3,423	(13) 3,553	(5) 3,153	(17) 3,699	(5) 3,845	(246) 3,317
Atmospheric, Earth, Marine & Space Sciences	(11) 2,992	(14) 3,041	(19) 3,447	(20) 3,658	(17) 3,978	(14) 3,766	(9) 3,771	(6) 4,768	(11) 4,388	(10) 4,629	(329) 3,807
Chemistry		(13) 2,664	(20) 2,945	(35) 3,484	(31) 3,838	(24) 3,740	(13) 3,797	(14) 4,359	(28) 4,466	(16) 4,750	(644) 3,859
Computer Sciences	(26) 3,115	(49) 3,312	(68) 3,659	(71) 3,868	(48) 4,100	(52) 4,337	(26) 4,307	(20) 4,369	(35) 4,809	(18) 4,620	(1,228) 4,051
Mathematics	(8) 3,120	(11) 3,043	(7) 3,709	(16) 3,958	(12) 4,061	(12) 4,392	(9) 4,716	(6) 4,302	(13) 4,654	(19) 5,355	(330) 4,410
Physics	(6) 3,040	(12) 2,596	(20) 3,311	(18) 3,866	(20) 3,943	(13) 4,167	(12) 4,436	(14) 4,705	(23) 4,972	(27) 5,007	(582) 4,383
Statistics		(6) 2,787	(6) 3,221	(10) 3,734	(5) 3,794	(3) 4,323	(3) 3,761	(3) 4,265	(6) 4,233	(3) 4,365	(134) 3,942

*Total includes all years since first degree.

NOTE: Numbers in parenthesis are survey respondents.

SOURCE: The Hay Group, Prepared for the U.S. Department of Energy, 1989 Participant Report - *National Compensation Survey of Research and Development Scientists and Engineers*, May 1989

TABLE 64

NUMBER AND MEAN MONTHLY SALARIES OF DOCTORATE DEGREE NONSUPERVISORY SCIENTISTS & ENGINEERS BY WORKING-AS-OCCUPATION AND SELECTED YEARS SINCE FIRST DEGREE, 1989

WORKING-AS-OCCUPATION	SELECTED YEARS SINCE FIRST DEGREE										
	5	7	10	13	15	18	21	24-25	28-29	30-31	TOTAL*
Aeronautical & Astronautical Engineering	\$	(6) \$3,993	(6) \$4,308	(4) \$4,653	(9) \$4,353	(6) \$4,725	(5) \$5,038	(20) \$5,615	(14) \$5,511	(10) \$5,942	(205) \$4,332
Chemical Engineering	(6) 3,759	(16) 3,969	(12) 3,719	(13) 4,218	(16) 4,181	(9) 4,907	(7) 5,073	(8) 5,057	(16) 5,391	(12) 5,798	(330) 4,576
Electrical & Electronic Engineering	(10) 4,209	(19) 4,456	(32) 4,690	(37) 4,932	(23) 5,090	(30) 5,260	(18) 5,582	(68) 5,512	(49) 5,582	(44) 5,866	(840) 5,250
Materials Engineering		(7) 4,021	(20) 4,183	(14) 4,280	(9) 4,723	(10) 4,467	(10) 5,045	(19) 5,125	(15) 5,399	(9) 4,953	(302) 4,783
Mechanical Engineering	(5) 3,861	(12) 4,156	(15) 4,447	(12) 4,310	(12) 4,727	(6) 5,265	(9) 5,521	(30) 5,455	(23) 5,843	(19) 5,738	(392) 5,022
Metallurgical Engineering	(3) 3,666	(4) 3,990		(3) 4,616	(4) 4,585	(5) 4,778		(11) 5,597	(14) 5,386	(10) 5,569	(148) 4,964
Nuclear & Reactor Engineering		(4) 4,370	(14) 4,411	(7) 4,471	(15) 4,895	(22) 4,784	(9) 5,113	(30) 5,226	(23) 5,355	(13) 5,676	(368) 4,967
Other Engineering			(4) 4,036	(6) 4,119				(9) 4,655	(9) 5,186		(87) 4,900
Agricultural Sciences		(4) 3,560	(8) 3,866	(6) 3,937	(5) 4,368	(3) 3,910		(7) 5,454			(100) 4,341
Biological Sciences		(3) 2,305	(18) 2,942	(29) 3,711	(23) 4,345	(19) 3,872	(10) 4,744	(23) 4,608	(9) 4,919	(9) 5,455	(378) 4,156
Atmospheric, Earth, Marine & Space Sciences		(6) 3,794	(16) 4,003	(11) 3,819	(15) 4,697	(18) 4,630	(21) 4,978	(21) 5,599	(18) 5,482	(11) 5,312	(380) 4,655
Chemistry	(14) 3,659	(42) 3,685	(76) 3,924	(60) 4,238	(51) 4,230	(41) 4,603	(37) 4,862	(73) 5,050	(52) 5,505	(44) 5,362	(1,377) 4,543
Computer Sciences	(3) 4,533	(7) 4,154	(16) 4,704	(23) 5,144	(19) 5,000	(14) 5,247	(12) 5,056	(23) 5,533	(14) 5,729	(6) 5,783	(384) 5,092
Mathematics		(11) 4,143	(15) 4,300	(13) 4,794	(15) 4,894	(15) 5,129	(14) 5,302	(22) 5,512	(18) 5,600	(10) 5,664	(336) 5,079
Physics	(7) 3,153	(36) 3,748	(42) 4,109	(50) 4,611	(46) 4,647	(54) 4,851	(57) 5,230	(116) 5,383	(89) 5,290	(54) 5,696	(1,566) 4,948
Statistics			(4) 4,624	(7) 4,400	(5) 4,864	(8) 4,766	(4) 5,198	(9) 5,888	(9) 5,885	(7) 5,294	(139) 5,069

*Total includes all years since first degree.

NOTE: Numbers in parenthesis are survey respondents.

SOURCE: The Hay Group, Prepared for the U.S. Department of Energy, 1989 Participant Report - National Compensation Survey of Research and Development Scientists and Engineers, May 1989

TABLE 65

NUMBER AND MEAN MONTHLY SALARIES OF NONSUPERVISORY SCIENTISTS & ENGINEERS BY DEGREE LEVEL, TYPE OF ESTABLISHMENT, AND SELECTED YEARS SINCE FIRST DEGREE, 1989

TYPE OF ESTABLISHMENT & DEGREE LEVEL	SELECTED YEARS SINCE FIRST DEGREE										
	2	4	7	10	13	15	18	21	24-25	30-31	TOTAL*
BACHELOR'S DEGREE											
Nonprofit Establishments	(172) \$2,770	(166) \$3,012	(69) \$3,578	(47) \$3,320	(41) \$3,986	(19) \$3,966	(23) \$4,552	(18) \$4,867	(46) \$4,412	(40) \$5,093	(1,732) \$3,597
Educational Institutions	(102) 2,648	(92) 2,971	(47) 3,077	(26) 3,279	(23) 3,436	(15) 3,730	(16) 3,720	(10) 3,712	(25) 4,062	(14) 4,321	(1,324) 3,002
Contract Research Centers	(102) 2,667	(101) 2,920	(67) 3,253	(71) 3,549	(20) 3,864	(28) 4,018	(27) 4,120	(25) 4,414	(32) 4,411	(69) 4,758	(1,701) 3,767
Federal Government Establishments	(36) 2,608	(33) 2,883	(16) 3,237	(10) 3,469	(7) 3,673	(10) 3,679	(7) 4,254	(13) 4,182	(17) 4,455	(30) 4,457	(633) 3,596
Total Industry	(505) 2,751	(618) 3,048	(489) 3,493	(308) 3,845	(184) 4,009	(152) 4,174	(136) 4,286	(123) 4,668	(178) 4,736	(173) 4,809	(8,348) 3,670
MASTERS DEGREE											
Nonprofit Establishments	(45) 3,106	(48) 3,313	(51) 3,521	(62) 3,920	(47) 4,163	(53) 4,295	(31) 4,756	(34) 4,992	(56) 4,880	(52) 5,415	(1,446) 4,418
Educational Institutions	(15) 3,183	(36) 3,165	(37) 3,368	(27) 3,550	(25) 3,836	(17) 3,871	(12) 3,863	(18) 3,861	(32) 4,318	(23) 4,910	(743) 3,933
Contract Research Centers	(67) 3,094	(81) 3,481	(93) 3,854	(95) 4,058	(72) 3,991	(78) 4,291	(58) 4,232	(46) 4,620	(83) 4,724	(62) 4,855	(2,091) 4,175
Federal Government Establishments	(6) 2,671	(12) 2,819	(13) 3,136	(10) 3,460	(14) 3,672	(7) 3,452	(7) 4,313	(5) 4,483	(28) 4,427	(27) 4,722	(490) 4,045
Total Industry	(82) 3,056	(144) 3,201	(197) 3,540	(195) 3,869	(166) 4,093	(152) 4,352	(103) 4,401	(83) 4,826	(158) 4,955	(120) 5,147	(4,301) 4,254
DOCTORAL DEGREE											
Nonprofit Establishments			(26) 4,140	(26) 3,771	(48) 4,305	(33) 4,585	(40) 4,758	(53) 5,327	(83) 5,522	(53) 5,732	(1,166) 5,075
Educational Institutions			(25) 4,071	(33) 3,685	(44) 4,286	(36) 4,728	(31) 4,924	(23) 5,288	(56) 5,352	(22) 5,542	(824) 4,717
Contract Research Centers		(5) 3,873	(34) 3,721	(86) 4,280	(56) 4,458	(81) 4,537	(80) 4,715	(66) 5,031	(142) 5,107	(67) 5,380	(2,027) 4,777
Federal Government Establishments			(5) 3,681	(22) 3,744	(16) 4,027	(26) 4,235	(16) 4,442	(21) 4,834	(54) 4,942	(34) 5,441	(638) 4,687
Total Industry		(24) 3,710	(93) 3,876	(151) 4,263	(153) 4,578	(109) 4,698	(109) 4,914	(77) 5,276	(186) 5,580	(115) 5,836	(3,209) 4,947

*Total includes all years since first degree. Note: Numbers in parenthesis are survey respondents.

SOURCE: The Hay Group, Prepared for the U.S. Department of Energy, 1989 Participant Report - *National Compensation Survey of Research and Development Scientists and Engineers*, May 1989

TABLE 66

NUMBER AND MEAN MONTHLY SALARIES OF NONSUPERVISORY SCIENTISTS & ENGINEERS BY HIGHEST DEGREE FIELD AND SELECTED YEARS SINCE FIRST DEGREE, 1989

HIGHEST DEGREE FIELD	SELECTED YEARS SINCE FIRST DEGREE										TOTAL*
	2	4	7	10	13	15	18	21	24-25	30-31	
BACHELOR'S DEGREE											
Engineering	(565) \$2,785	(631) \$3,077	(431) \$3,526	(268) \$3,839	(133) \$4,150	(119) \$4,250	(120) 4,391	(112) \$4,696	(164) \$4,771	(215) \$4,907	(8,442) \$3,678
Chemistry	(51) 2,291	(50) 2,504	(61) 3,039	(53) 3,311	(42) 3,706	(23) 3,633	(27) 3,987	(17) 4,222	(43) 4,101	(31) 4,241	(1,247) 3,442
Physics	(37) 2,734	(36) 2,894	(31) 3,466	(25) 3,671	(14) 4,032	(15) 4,270	(23) 4,293	(15) 4,587	(34) 5,107	(37) 4,837	(778) 4,057
Other Physical Sciences	(9) 2,370	(12) 2,555	(11) 3,153	(12) 3,238		(3) 3,346	(3) 3,685		(3) 4,978	(5) 4,560	(211) 3,302
Life Sciences - Health & Related	(8) 2,220	(7) 2,545	(11) 2,764	(6) 3,193	(17) 3,513	(6) 3,536			(7) 3,128	(3) 3,571	(164) 3,086
Life Sciences - Other	(11) 2,328	(20) 2,331	(18) 2,835	(24) 2,652	(30) 3,108	(22) 3,558	(9) 3,530	(7) 3,712	(11) 3,132	(9) 3,928	(494) 3,060
Mathematics & Statistics	(38) 2,760	(48) 2,915	(45) 3,463	(36) 4,196	(22) 4,127	(27) 4,252	(19) 4,131	(31) 4,621	(30) 4,386	(20) 4,787	(877) 3,853
Computer Sciences	(158) 2,534	(199) 3,115	(78) 3,576	(36) 3,771	(14) 4,301	(8) 4,066	(7) 4,279		(3) 4,282		(1,445) 3,186
MASTER'S DEGREE											
Engineering	(149) 3,161	(209) 3,412	(233) 3,762	(198) 4,033	(163) 4,225	(160) 4,515	(104) 4,518	(95) 4,990	(198) 4,947	(163) 5,224	(5,102) 4,355
Chemistry	(26) 2,729	(28) 2,802	(35) 3,102	(44) 3,539	(35) 3,832	(42) 3,773	(24) 4,174	(29) 4,337	(39) 4,506	(28) 4,742	(1,024) 3,965
Physics	(3) 2,917	(11) 2,720	(20) 3,273	(19) 3,910	(18) 3,816	(15) 4,074	(16) 4,333	(18) 4,561	(35) 5,005	(28) 4,980	(673) 4,432
Other Physical Sciences		(7) 2,542	(19) 3,271	(17) 3,510	(16) 3,887	(9) 3,716	(10) 4,091	(6) 4,594	(9) 4,617	(9) 4,809	(310) 3,835
Life Sciences - Health & Related		(3) 3,532	(4) 2,741	(3) 3,970	(11) 3,414	(6) 3,389	(6) 3,697	(5) 4,137	(10) 3,780	(4) 3,869	(138) 3,522
Life Sciences - Other	(3) 2,234	(5) 2,508	(11) 2,324	(16) 3,154	(14) 3,313	(13) 3,582	(11) 3,567	(3) 3,376	(13) 3,806	(3) 4,326	(248) 3,330
Mathematics & Statistics	(7) 3,065	(15) 2,936	(18) 3,463	(31) 3,876	(23) 4,085	(22) 4,391	(14) 4,748	(16) 4,505	(28) 4,841	(30) 5,148	(632) 4,341
Computer Sciences	(25) 3,125	(36) 3,402	(47) 3,701	(57) 3,974	(38) 4,042	(35) 4,272	(23) 4,343	(14) 4,458	(25) 4,620	(17) 4,581	(857) 4,008
DOCTORAL DEGREE											
Engineering		(15) 3,920	(61) 4,200	(103) 4,479	(81) 4,653	(84) 4,726	(69) 5,089	(63) 5,345	(179) 5,506	(119) 5,743	(2,468) 5,075
Chemistry		(9) 3,476	(58) 3,724	(88) 3,909	(61) 4,244	(58) 4,396	(56) 4,561	(47) 4,937	(92) 5,114	(55) 5,452	(1,644) 4,586
Physics		(3) 3,317	(33) 3,767	(46) 4,132	(67) 4,524	(51) 4,541	(67) 4,852	(69) 5,236	(143) 5,388	(74) 5,689	(1,954) 5,012
Other Physical Sciences			(11) 3,937	(20) 3,967	(33) 4,208	(23) 4,708	(20) 4,722	(17) 5,103	(28) 5,443	(11) 6,141	(531) 4,698
Life Sciences - Health & Related			(4) 3,260	(12) 2,877	(19) 3,915	(13) 4,168	(11) 4,517	(6) 4,811	(21) 4,553	(6) 5,966	(264) 4,265
Life Sciences - Other			(4) 3,235	(16) 3,527	(23) 3,786	(20) 4,298	(17) 3,883	(12) 5,036	(18) 5,173	(9) 4,554	(331) 4,271
Mathematics & Statistics		(4) 4,176	(8) 4,083	(19) 4,256	(16) 4,830	(21) 4,862	(22) 5,017	(18) 5,188	(28) 5,492	(14) 5,481	(442) 5,077
Computer Sciences			(4) 4,102	(12) 4,951	(13) 5,365	(13) 5,173	(12) 5,404	(5) 5,440	(10) 5,459		(182) 5,179

*Total includes all years since first degree.

NOTE: Numbers in parenthesis are survey respondents.

SOURCE: The Hay Group, Prepared for the U.S. Department of Energy, 1989 Participant Report - *National Compensation Survey of Research and Development Scientists and Engineers*, May 1989

TABLE 67

NUMBER, MEAN AND MEDIAN MONTHLY SALARIES OF SCIENTISTS & ENGINEERS EMPLOYED IN RESEARCH AND DEVELOPMENT BY WORKING-AS OCCUPATION AND DEGREE LEVEL, 1989

WORKING-AS OCCUPATION	DEGREE LEVEL								
	BACHELOR'S			MASTER'S			Ph. D.		
	No.	Mean	Median	No.	Mean	Median	No.	Mean	Median
Aeronautical & Astronautical Engineering	392	\$3,679	\$3,422	463	\$4,275	\$4,247	205	\$5,018	\$4,863
Ceramic Engineering	24	3,441	3,301	24	4,183	4,151	72	4,959	4,726
Chemical Engineering	688	3,460	3,284	349	3,932	3,684	330	4,576	4,418
Civil Engineering	62	3,425	3,451	51	4,521	4,593	32	5,153	5,051
Electrical & Electronic Engineering	3,626	3,680	3,461	2,342	4,500	4,407	840	5,250	5,135
Materials Engineering	226	3,650	3,562	200	4,068	4,059	302	4,783	4,644
Mechanical Engineering	1,262	3,711	3,603	715	4,251	4,155	392	5,022	4,945
Metallurgical Engineering	89	3,809	3,541	75	4,239	4,268	148	4,964	4,951
Mining & Petroleum Engineering	19	3,979	3,676	9	4,037	3,626	32	5,276	4,951
Nuclear or Reactor Engineering	1,137	3,666	3,533	793	4,156	4,179	368	4,967	4,927
Ocean Science Engineering	90	3,362	3,194	56	4,352	4,218	66	5,073	5,176
Sanitary Engineering	63	3,198	3,068	70	3,743	3,701	33	4,410	4,326
Other Engineering Fields	183	3,927	3,857	145	4,453	4,259	87	4,900	4,934
Physics	637	3,910	3,741	582	4,383	4,293	1,566	4,948	4,940
Chemistry	1,425	3,461	3,389	644	3,859	3,818	1,377	4,543	4,307
Atmospheric, Earth, Marine & Space Science	143	3,251	2,945	329	3,807	3,714	380	4,655	4,684
Agricultural Science	28	3,850	3,718	36	3,570	3,701	100	4,341	4,026
Biological Science	351	2,891	2,857	246	3,317	3,243	378	4,156	4,096
Biomedical Specialties	15	3,123	3,026	11	3,826	3,526	15	4,400	4,601
Mathematics	364	3,946	3,851	330	4,410	4,313	336	5,079	4,984
Statistics	53	3,525	3,376	134	3,942	3,811	139	5,069	4,926
Computer Science	2,637	3,427	3,255	1,228	4,051	3,890	384	5,092	5,033

SOURCE: The Hay Group, Prepared for the U.S. Department of Energy, 1989 Participant Report - *National Compensation Survey of Research and Development Scientists and Engineers, May 1989*

TABLE 68

NUMBER, MEAN AND MEDIAN MONTHLY SALARIES OF NONSUPERVISORY SCIENTISTS & ENGINEERS EMPLOYED IN RESEARCH AND DEVELOPMENT BY DEGREE LEVEL AND GEOGRAPHIC REGION, 1989

GEOGRAPHIC REGION	DEGREE LEVEL								
	BACHELOR'S			- MASTER'S			Ph. D		
	No.	Mean	Median	No.	Mean	Median	No.	Mean	Median
Northeast	5,337	\$3,668	\$3,458	3,114	\$4,321	\$4,208	2,016	\$5,089	\$5,057
Southeast	2,141	3,453	3,312	1,419	3,962	3,879	1,838	4,730	4,637
Midwest	3,103	3,553	3,403	1,493	4,028	3,910	1,558	4,562	4,261
Northwest	300	3,603	3,601	327	3,803	3,771	311	4,341	4,290
Southwest	2,857	3,658	3,467	2,718	4,409	4,376	2,141	5,112	5,053

TABLE 69

NUMBER, MEAN AND MEDIAN MONTHLY SALARIES OF NONSUPERVISORY SCIENTISTS & ENGINEERS EMPLOYED IN RESEARCH AND DEVELOPMENT BY DEGREE LEVEL AND TYPE OF INDUSTRY, 1989

TYPE OF INDUSTRY	DEGREE LEVEL								
	BACHELOR'S			MASTER'S			Ph. D.		
	No.	Mean	Median	No.	Mean	Median	No.	Mean	Median
Aerospace	1,357	\$4,119	\$3,953	1,186	\$4,617	\$4,577	895	\$5,175	\$5,111
Industrial & Agricultural Chemicals	676	3,819	3,740	334	4,004	3,861	667	4,458	4,089
Drugs, Biomedical, and Genetics	313	3,337	3,205	169	3,547	3,445	94	4,379	4,351
Electrical, Electronic & Computer	2,638	3,586	3,438	1,165	4,225	4,087	565	5,260	5,171
Food, Additives, & Personal Products	355	3,710	3,493	147	4,101	4,014	157	4,814	4,582
Instruments	297	3,524	3,459	147	3,900	3,879	83	4,430	4,468
Materials	552	3,634	3,608	179	4,084	4,089	252	4,634	4,476
Diversified	2,115	3,517	3,328	970	4,130	4,051	494	5,240	5,140

SOURCE: *Research & Development Magazine*, March 1989 and May 1989.

TABLE 70

SALARIES OF SCIENTISTS AND ENGINEERS EMPLOYED IN RESEARCH AND DEVELOPMENT BY PROFESSION, 1989 AND 1988

PROFESSION	MEDIAN SALARY		% INCREASE
	1989	1988	
Aeronautical Engineer	\$57,500	\$52,917	8.7
Metallurgist	52,205	49,375	5.7
Physicist	51,087	47,955	6.5
Geologist	50,500	48,750	3.6
Ceramist	50,500	43,750	15.4
Electrical Engineer	50,185	45,476	10.3
Chemical Engineer	49,100	45,109	8.8
Mechanical Engineer	48,900	44,828	9.1
Chemist	45,243	42,113	7.4
Biologist	43,846	40,625	7.9
Mathematician	42,500	41,250	3.0
Industrial Engineer	38,125	37,500	1.7

TABLE 71

SALARIES OF SCIENTISTS AND ENGINEERS EMPLOYED IN RESEARCH AND DEVELOPMENT BY DEGREE LEVEL, 1989 AND 1988

DEGREE	MEDIAN SALARY		% Increase	ANNUAL DIFFERENCE		Difference Increase % *
	1989	1988		1989	1988	
Doctorate	\$54,351	\$50,995	7.8	\$6,436	\$6,350	1.3
Master's	47,915	44,605	7.4	4,982	5,537	-10.1
Bachelor's	42,933	39,068	9.9	7,286	4,837	50.6
Less than Bachelors	35,647	34,231	4.1			

* Difference above next-lower degree.

TABLE 72

SALARIES OF SCIENTISTS AND ENGINEERS EMPLOYED IN RESEARCH AND DEVELOPMENT BY TYPE OF EMPLOYER AND SEX, 1989 AND 1988

TYPE OF EMPLOYER AND SEX	1989	1988	% Increase
Industry	\$48,307	\$44,175	9.4
Men	49,434	45,111	9.6
Women	36,561	35,543	2.9
Government	45,482	41,786	8.8
Men	45,802	42,667	7.3
Women	41,249	33,500	23.1
Universities	43,181	40,250	7.3
Men	44,317	41,635	6.4
Women	27,499	27,083	1.5

TABLE 73

NUMBER AND AVERAGE SALARIES FOR SELECTED PROFESSIONAL, ADMINISTRATIVE, TECHNICAL AND CLERICAL OCCUPATIONS IN PRIVATE NONSERVICE INDUSTRY, MARCH 1988

OCCUPATION AND CLASS	NO. OF EMPLOYEES	MONTHLY SALARIES		ANNUAL SALARIES	
		MEAN	MEDIAN	MEAN	MEDIAN
Accountants I	15,209	\$1,850	\$1,860	\$22,198	\$22,320
Accountants II	33,353	2,258	2,209	27,093	26,508
Accountants III	45,508	2,774	2,739	33,293	32,873
Accountants IV	23,190	3,512	3,449	42,140	41,383
Accountants V	7,506	4,454	4,390	53,453	52,679
Chief Accountants II	1,028	4,443	4,233	53,316	50,800
Chief Accountants III	500	5,776	5,733	69,316	68,800
Chemists I	2,304	2,218	2,189	26,616	26,268
Chemists II	5,526	2,584	2,562	31,013	30,745
Chemists III	7,775	3,176	3,165	38,113	37,985
Chemists IV	6,033	3,818	3,823	45,812	45,876
Chemists V	4,292	4,581	4,573	54,971	54,878
Chemists VI	1,469	5,501	5,515	66,011	66,180
Chemists VII	370	6,647	6,465	79,759	77,585
Engineers I	29,607	2,466	2,474	29,592	29,688
Engineers II	65,445	2,773	2,749	33,278	32,987
Engineers III	121,166	3,196	3,165	38,353	37,985
Engineers IV	134,682	3,815	3,793	45,777	45,522
Engineers V	89,649	4,599	4,562	55,194	54,744
Engineers VI	36,607	5,476	5,450	65,710	65,400
Engineers VII	9,360	6,300	6,229	75,594	74,748
Engineers VIII	1,542	7,326	7,196	87,914	86,355
Engineering Technicians I	3,930	1,490	1,477	17,879	17,724
Engineering Technicians II	13,496	1,776	1,764	21,317	21,169
Engineering Technicians III	28,498	2,084	2,067	25,028	24,804
Engineering Technicians IV	31,375	2,504	2,482	30,043	29,788
Engineering Technicians V	17,341	2,895	2,855	34,742	34,263
Attorneys I	1,310	2,839	2,654	34,073	31,851
Attorneys II	3,432	3,545	3,499	42,539	41,983
Attorneys III	4,625	4,613	4,540	55,362	54,478
Attorneys IV	4,407	5,853	5,748	70,231	68,972
Attorneys V	2,116	7,300	7,139	87,595	85,666
Attorneys VI	676	9,180	8,871	110,162	106,457
Secretaries II	55,333	1,637	1,607	19,640	19,284
Secretaries III	105,161	1,878	1,835	22,530	22,020
Drafters II	9,375	1,390	1,343	16,676	16,119
Drafters III	16,971	1,779	1,733	21,345	20,798
Drafters IV	15,097	2,211	2,169	26,535	25,998
Drafters V	8,749	2,714	2,709	32,567	32,508
Computer Operators I	6,635	1,253	1,220	15,039	14,640
Computer Operators II	30,874	1,538	1,499	18,452	17,993
Computer Operators III	23,538	1,904	1,871	22,846	22,455
Computer Operators IV	6,480	2,253	2,249	27,040	26,989
Computer Operators V	1,001	2,575	2,587	30,900	31,042
Computer Programmers I	8,770	1,878	1,833	22,531	21,996
Computer Programmers II	29,726	2,202	2,174	26,422	26,090
Computer Programmers III	37,369	2,620	2,608	31,440	31,291
Computer Programmers IV	17,593	3,116	3,090	37,396	37,080
Computer Programmers V	6,986	3,795	3,790	45,536	45,480
Systems Analysts I	20,895	2,615	2,581	31,380	30,972
Systems Analysts II	42,898	3,154	3,124	37,848	37,485
Systems Analysts III	26,377	3,684	3,657	44,214	43,882
Systems Analysts IV	8,021	4,338	4,326	52,054	51,914
Systems Analysts V	827	5,449	5,500	65,388	66,000
Systems Analysts Managers I	6,131	4,097	4,007	49,164	44,482
Systems Analysts Managers II	4,931	4,645	4,578	55,735	50,696
Systems Analysts Managers III	1,882	5,421	5,280	65,056	59,040
Systems Analysts Managers IV	228	6,298	6,312	75,579	70,972
Registered Nurses I	1,601	1,954	1,899	23,443	22,791
Registered Nurses II	4,220	2,379	2,341	28,545	28,090
Registered Nurses III	184	2,922	2,916	35,059	34,986

SOURCE: American Chemical Society, *Chemical and Engineering News*, Vol. 63, No. 27, July 8, 1985, p. 32; Vol. 65, No. 26, June 29, 1987, p. 33; Vol. 67, No. 27, July 3, 1989, and *Salaries 1989*, July, 1989.

TABLE 74

MEDIAN ANNUAL SALARIES OF CHEMISTS* AND CHEMICAL ENGINEERS* OF ALL EXPERIENCE LEVELS BY DEGREE, 1973-1989

YEAR	CHEMISTS			CHEMICAL ENGINEERS		
	B.S.	M.S.	Ph. D.	B.S.	M.S.	Ph. D.
1973	\$16,800	\$17,500	\$20,500	\$20,200	\$22,000	\$23,100
1974	17,500	18,400	21,700	21,300	22,400	24,800
1975	19,000	19,800	23,000	24,000	25,000	26,000
1976	19,800	20,500	24,700	26,000	27,000	29,000
1977	21,000	22,000	26,000	28,000	30,000	30,000
1978	22,000	24,000	27,400	30,000	32,000	32,000
1979	23,500	25,000	29,000	31,700	31,500	35,000
1980	25,000	26,000	31,200	35,000	35,000	38,000
1981	27,500	30,000	35,000	36,000	40,000	42,000
1982	28,500	31,600	37,500	40,000	42,000	45,000
1983	30,000	33,000	40,000	40,000	41,900	48,500
1984	30,900	34,000	42,000	39,995	46,000	54,700
1985	32,000	36,000	44,000	38,200	41,050	55,900
1986	33,000	37,900	47,800	43,900	48,000	59,400
1987	33,500	39,000	47,700	47,100	51,000	61,000
1988	35,400	41,000	50,000	47,700	50,900	62,900
1989	37,000	43,000	52,500	47,700	53,000	64,700

*Includes only members of the American Chemical Society

TABLE 75

**MEDIAN SALARIES OF CHEMISTS* EMPLOYED IN INDUSTRY FULL-TIME
BY HIGHEST DEGREE, SEX AND YEARS SINCE B. S., 1989**

YEARS SINCE B.S.	BACHELOR'S		MASTER'S		Ph. D.	
	MEN	WOMEN	MEN	WOMEN	MEN	WOMEN
0-1	\$26,000	\$25,650	\$	\$	\$	\$
2-4	28,800	26,400	34,250	33,000		
5-9	34,000	31,000	36,500	34,500	44,800	45,000
10-14	40,000	37,982	41,000	40,000	49,810	48,000
15-19	44,000	39,150	46,800	42,400	55,500	55,318
20-24	50,000	36,250	54,000	44,500	64,000	61,800
25-29	53,380	40,040	54,200	42,050	69,100	48,000
30-34	55,000	42,000	55,260	49,900	68,500	51,600
35-39	56,600		56,000	43,500	74,000	
> = 40	54,000	42,840	59,590	60,000	72,000	
All Years	41,000	31,000	48,000	39,300	59,600	48,000

*Includes only members of the American Chemical Society.

Note: Blanks indicate fewer than 15 respondents.

TABLE 76

**MEAN ANNUAL SALARIES OF CHEMISTS* BY TYPE OF EMPLOYER, DEGREE LEVEL AND SEX,
1989**

TYPE OF EMPLOYER	DEGREE LEVEL AND SEX								
	BACHELOR'S			MASTER'S			Ph. D.		
	Men	Women	Total	Men	Women	Total	Men	Women	Total
Private Industry	\$44,500	\$37,600	\$41,600	\$50,600	\$44,100	\$48,800	\$63,300	\$54,800	\$62,300
Government	38,700	35,200	36,900	43,400	39,100	41,000	55,400	44,200	54,200
Academic	32,500	24,700	28,500	37,400	29,700	34,500	47,700	39,800	46,600
Other Non-Academic	44,300	33,400	40,300	51,200	43,500	48,900	62,900	50,000	60,800

* Includes only members of the American Chemical Society.

SOURCE: American Chemical Society, Salaries 1989 - *Analysis of The American Chemical Society's 1989 Survey of Salaries and Employment*, July 1989.

TABLE 77

**MEDIAN AND MEAN SALARIES OF CHEMISTS* EMPLOYED IN INDUSTRY FULL-TIME
BY TYPE OF INDUSTRY AND DEGREE LEVEL, 1989**

TYPE OF INDUSTRY	BACHELOR'S		MASTER'S		Ph. D.	
	Median	Mean	Median	Mean	Median	Mean
Agricultural Chemicals	\$38,723	\$40,068	\$43,000	\$47,307	\$51,878	\$58,184
Biochemical Products			48,000	51,646	50,000	56,847
Basic Chemicals	48,595	52,270	49,600	53,244	60,000	65,089
Specialty Chemicals	40,000	43,365	48,100	51,389	57,500	61,998
Coatings	37,000	42,747	42,500	46,459	55,000	57,491
Electronics	40,700	42,634	46,275	51,149	57,650	60,238
Food	35,000	39,142	46,250	49,475	58,600	62,078
Glass	35,350	38,526			52,920	56,758
Metals	39,500	42,599	42,000	43,558	55,000	57,287
Paper	42,000	41,142			60,000	61,255
Petroleum	40,000	44,379	52,331	56,314	67,500	69,476
Pharmaceuticals	35,850	39,395	41,500	46,268	58,732	63,968
Plastics	41,750	46,945	51,840	52,057	60,432	66,004
Rubber	46,000	50,636			59,250	60,829
Soaps	35,500	36,489			55,500	58,602
Non-Manufacturing	31,700	35,395	42,400	44,990	53,113	58,609
Other Manufacturing	38,000	41,401	47,750	49,293	57,950	61,306

* Includes only members of the American Chemical Society.

NOTE: Blanks indicate fewer than 15 respondents

SOURCE: American Chemical Society, Salaries 1989 - *Analysis of The American Chemical Society's 1989 Survey of Salaries and Employment*, July 1989.

TABLE 78

**MEDIAN AND MEAN SALARIES OF FULL-TIME CHEMISTS* EMPLOYED IN INDUSTRY
BY DEGREE LEVEL, SUPERVISORY STATUS AND YEARS SINCE B. S., 1989**

SUPERVISORY STATUS & YEARS SINCE B.S.	BACHELOR'S		MASTER'S		Ph. D.	
	Median	Mean	Median	Mean	Median	Mean
NON-SUPERVISORS TOTAL	\$33,200	\$35,518	\$40,800	\$43,143	\$50,880	\$53,582
2-4	26,900	27,250	33,000	32,595		
5-9	31,000	31,769	34,400	34,640	44,000	43,846
10-14	35,052	35,697	39,000	39,296	47,000	47,764
15-19	38,000	39,556	42,000	43,092	51,240	51,783
20-24	42,780	44,109	46,562	48,264	58,000	58,184
25-29	42,000	44,306	45,000	48,620	59,700	58,996
30-34	45,100	46,129	46,800	49,058	63,550	62,936
35-39	51,000	50,941	54,350	55,879	62,560	64,242
40 or more	48,000	48,359	56,844	55,149	59,850	65,266
SUPERVISORS TOTAL	45,000	49,428	52,000	54,742	62,940	67,882
2-4	30,000	30,684				
5-9	36,000	37,810	40,200	40,679	46,545	46,196
10-14	42,050	43,384	43,250	45,039	51,800	52,108
15-19	46,950	48,543	51,640	53,828	59,500	61,492
20-24	52,000	55,339	56,514	57,868	67,693	69,424
25-29	59,000	56,538	55,000	59,163	72,300	76,274
30-34	56,510	62,849	60,000	60,558	72,000	76,114
35-39	60,410	68,354	60,000	63,732	84,000	88,628
40 or more	55,500	67,758	64,500	67,096	74,275	79,290

* Includes only members of the American Chemical Society.

NOTE: Blanks indicate fewer than 15 respondents

SOURCE: American Chemical Society, Salaries 1989 - *Analysis of The American Chemical Society's 1989 Survey of Salaries and Employment*, July 1989.

TABLE 79

**MEDIAN AND MEAN SALARIES OF FULL-TIME CHEMISTS* EMPLOYED IN INDUSTRY
BY TYPE OF WORK SPECIALTY AND DEGREE LEVEL, 1989**

WORK SPECIALTY	BACHELOR'S		MASTER'S		Ph. D.	
	Median	Mean	Median	Mean	Median	Mean
Biochemistry	\$34,296	\$39,091	\$38,000	\$41,219	\$54,000	\$60,359
Biotechnology			41,000	47,900	57,500	61,727
General Chemistry	36,000	40,949	49,540	48,907	63,000	65,538
Agricultural Chemistry	40,000	43,456	48,650	49,753	54,000	58,749
Analytical Chemistry	35,000	37,306	42,775	45,987	52,000	57,088
Clinical Chemistry					52,650	52,958
Environmental Chemistry	37,000	38,466	43,000	45,768	54,500	62,523
Inorganic Chemistry	39,000	42,772			56,850	61,138
Materials Science	40,000	44,160	52,000	54,089	60,000	62,081
Medicinal/Clinical Chemistry	36,816	40,840	43,000	46,012	61,200	66,386
Organic Chemistry	38,915	41,767	45,000	46,676	56,400	59,892
Physical Chemistry	46,500	47,154	55,200	55,601	59,300	61,718
Polymer Chemistry	42,000	47,515	47,200	50,732	60,000	63,578
Other Chemical Sciences	35,677	40,050	47,000	53,498	59,250	61,809
Business Administration	50,786	57,530	60,000	63,463	75,000	84,771
Other Non-Chemistry	44,250	46,820	45,000	49,136	63,240	70,164

* Includes only members of the American Chemical Society.

NOTE: Blanks indicate fewer than 15 respondents

TABLE 80

**MEDIAN AND MEAN SALARIES OF FULL-TIME CHEMISTS* EMPLOYED IN INDUSTRY
BY WORK FUNCTION AND DEGREE LEVEL, 1989**

WORK FUNCTION	BACHELOR'S		MASTER'S		Ph. D.	
	Median	Mean	Median	Mean	Median	Mean
Management R&D	\$55,000	\$56,255	\$58,000	\$60,915	\$72,163	\$76,235
Basic Research	31,100	33,469	42,050	43,087	53,000	56,015
Applied Research	36,000	38,205	43,000	45,979	53,000	55,552
General Management	45,000	53,282	48,300	57,074	73,010	81,293
Marketing	44,000	46,031	47,000	48,112	57,000	59,539
Production	35,000	36,636	42,575	45,239	53,000	55,529
Forensics	30,000	34,008	37,000	39,980	50,400	50,247
Chemistry Info. Services	35,000	36,702	44,450	45,293	54,000	57,673
Computers	45,000	45,251				
Consulting	36,125	42,091	47,000	48,059	59,000	62,456
Other	35,000	39,192	45,000	47,055	60,000	62,677

* Includes only members of the American Chemical Society.

NOTE: Blanks indicate fewer than 15 respondents

TABLE 81

**MEDIAN AND MEAN SALARIES OF CHEMISTS* EMPLOYED FULL-TIME IN INDUSTRY
BY GEOGRAPHIC REGION AND DEGREE LEVEL, 1989**

GEOGRAPHIC REGION	BACHELOR'S		MASTER'S		Ph. D.	
	Median	Mean	Median	Mean	Median	Mean
Pacific	\$40,000	\$45,026	\$50,000	\$50,192	\$60,000	\$64,559
Mountain	39,600	39,095	43,750	44,870	51,416	54,996
West North Central	34,000	35,997	43,735	45,118	53,084	57,901
West South Central	43,500	45,389	45,425	52,345	60,000	61,200
East North Central	36,000	39,865	45,000	48,389	56,400	61,372
East South Central	38,000	37,239	46,550	47,793	56,200	61,028
Middle Atlantic	38,075	41,624	45,500	48,810	60,000	63,863
South Atlantic	40,000	42,981	44,500	48,109	58,400	62,679
New England	38,000	43,303	44,000	49,322	56,888	60,673

* Includes only members of the American Chemical Society.

NOTE: Blanks indicate fewer than 15 respondents

TABLE 82

MEDIAN ANNUAL SALARY OF MEMBERS OF THE AIC* BY DEGREE
LEVEL AND SEX, 1988

DEGREE LEVEL	B. S.	M. S.	Ph. D.
Male	\$43,000	\$47,000	\$59,750
Female	33,800	34,350	45,000
Overall	41,500	45,000	59,000

*American Institute of Chemists.

TABLE 83

MEDIAN ANNUAL SALARY OF MEMBERS OF THE AIC* BY AGE
AND DEGREE, 1988

AGE	B. S.	M. S.	Ph. D.
Under 30	\$31,100	\$22,650	\$
30-39	35,000	37,200	60,000
40-49	44,500	47,400	57,000
50-59	56,000	55,600	64,000
60-65	52,200	60,000	61,600
Over 65	50,000	49,500	60,000

*American Institute of Chemists.

TABLE 84

MEDIAN ANNUAL SALARY OF MEMBERS OF THE AIC* BY TYPE OF
EMPLOYER AND DEGREE, 1988

TYPE OF EMPLOYER	B. S.	M. S.	Ph. D.
Industry	\$43,000	\$48,000	\$64,600
Educational Institutions		35,500	50,000
Non-Profit Organizations		33,100	54,500
Government	38,500	42,000	55,637
Self-Employed	40,000	60,000	60,450
Total Salary	41,500	45,000	59,000
Total Income	44,000	49,500	63,000

*American Institute of Chemists.

SOURCE: American Institute of Chemists, *The Chemist*, May 1989.

TABLE 85

MEDIAN ANNUAL SALARY OF MEMBERS OF THE AIC* BY DEGREE LEVEL AND SPECIALTY, 1988

DEGREE SPECIALTY	B. S.	M. S.	Ph. D.
Analytical	\$36,950	\$42,300	\$52,000
Biochemistry		31,000	57,000
Inorganic	45,000	40,500	57,300
Organic	40,000	46,800	59,000
Physical			55,550
Polymer	60,000	50,000	64,800
Chemical Engineering	58,000	55,600	71,600
Other	43,000	52,000	60,000

*American Institute of Chemists.

TABLE 86

MEDIAN ANNUAL SALARY OF MEMBERS OF THE AIC* BY DEGREE LEVEL AND YEARS OF EXPERIENCE, 1988

YEARS OF EXPERIENCE	B. S.	M. S.	Ph. D.
Under 5	\$30,200	\$	\$
5-9	31,500	32,000	42,000
10-19	39,400	42,000	50,000
20-29	49,800	52,000	59,000
30-39	59,750	59,500	65,000
40 +	50,000	55,500	65,200

*American Institute of Chemists.

TABLE 87

MEDIAN ANNUAL SALARY OF MEMBERS OF THE AIC* BY WORK FUNCTION AND DEGREE LEVEL, 1988

WORK FUNCTION	B. S.	M. S.	Ph. D.
Research & Development	\$40,000	\$45,000	\$60,000
Management	50,000	52,400	70,000
Marketing, Sales, Etc.	35,000	55,000	54,000
Consulting	42,500	46,500	50,000
Teaching		27,100	45,000
Other	35,000		41,000

*American Institute of Chemists

SOURCE: American Institute of Chemists, *The Chemist*, May 1989.

TABLE 88

**MEDIAN ANNUAL SALARY OF MEMBERS OF THE AIC* BY
GEOGRAPHICAL REGION AND DEGREE LEVEL, 1988**

GEOGRAPHICAL REGION	B. S.	M. S.	Ph. D.
Pacific	\$43,000	\$55,200	\$57,600
Mountain	49,800		56,000
West North Central	37,000		50,350
East North Central	39,000	48,900	60,000
West South Central	37,500	40,200	55,000
East South Central	50,000		60,500
Middle Atlantic	40,000	49,000	60,000
South Atlantic	40,000	43,000	56,000
New England		44,450	52,000

*American Institute of Chemists.

SOURCE: American Mathematical Society, *NOTICES*, Vol. 36, No. 9, November 1989

TABLE 89

**MEDIAN SALARIES FOR MATHEMATICS PH.D.'S WITH ONE YEAR OF
EXPERIENCE BY TYPE OF EMPLOYER AND SEX, 1989**

TYPE OF EMPLOYER	MEN	WOMEN
Teaching or Teaching & Research 9 Months	\$30,300	\$31,000
12 Months	31,800	32,000
Research 9 Months	27,000	
12 Months	30,000	35,000
Business & Industry (12 Months)	45,000	48,000
Government (12 Months)	37,500	

SOURCE: Statistics Compiled by MLA Resources, Inc. for the American Association of Petroleum Geologists and reprinted in *Geotimes*, August 1989.

TABLE 90

AVERAGE SALARIES OF GEOLOGISTS BY DEGREE LEVEL AND YEARS OF EXPERIENCE, 1988

YEARS OF EXPERIENCE	ALL DEGREES	DEGREE LEVEL		
		Bachelor's	Master's	Ph. D.
0-2	\$34,400	\$30,000	\$34,690	\$
3-5	39,400	40,800	36,600	43,500
6-9	48,050	46,500	47,890	64,000
10-19	66,420	61,420	69,360	67,260
20 +	85,465	90,000	75,800	80,150

NOTE: Blanks indicate no data available.

SOURCE: American Psychological Association, *Salaries in Psychology*, 1987, April 1988.

TABLE 91

MEDIAN SALARIES OF PSYCHOLOGISTS BY TYPE OF POSITION AND SELECTIVE METROPOLITAN AREA, 1987

METROPOLITAN AREA	Faculty	Independent Practice
Atlanta	\$37,000	\$60,000
Boston	36,500	50,000
Denver/Boulder		65,000
Houston	30,500	60,000
New York City	45,000	75,000
Philadelphia	38,500	
San Diego		60,000
Seattle	34,364	55,000

Salaries for faculty are on a 9 to 10 month basis; While those for independent practitioners are on a 11 to 12 month basis.
Blanks indicate insufficient responses.

SOURCE: American Psychological Association, *Salaries in Psychology*, 1987, April 1988.

TABLE 92
MEDIAN SALARIES OF DOCTORAL-LEVEL PSYCHOLOGISTS* BY TYPE OF POSITION AND REGION, 1987

TYPE OF POSITION	REGION								
	New England	Middle Atlantic	East North Central	West North Central	South Atlantic	East South Atlantic	West South Central	Mountain	Pacific
EDUCATIONAL ADMIN.	\$50,000	\$60,000	\$50,500	\$52,000	\$55,000	\$	\$42,000	\$54,000	\$50,000
RESEARCH	39,500	46,000	36,000	43,000	41,000		39,000		44,000
RESEARCH ADMIN.	57,500	60,000	50,000		55,000		50,000		50,000
INDEPENDENT PRACTICE	50,000	67,000	60,000	55,000	55,000	55,000	60,000	52,500	55,000
DIRECT SERVICES-OTHER SETTINGS	38,000	40,333	39,000	37,444	36,333	40,000	35,000	40,000	42,000
FACULTY IN UNIVERSITIES	41,000	41,000	38,000	33,000	35,000	33,000	33,545	36,000	42,000
FACULTY-OTHER SETTINGS	34,000	35,000	32,864	32,864	35,182	36,000	32,727	32,000	39,000
SERVICE ADMIN.	47,000	43,000	45,000	43,000	43,000	41,500	42,000	44,000	48,000
APPLIED PSYCHOLOGY (Industrial/Org. Psych.)	65,000	66,500	60,000	71,000	50,000				65,000
APPLIED PSYCHOLOGY (Other Psychology)		48,000			45,000				60,000
ADMINISTRATION OF APPLIED PSYCHOLOGY	57,500	72,000	68,000		56,500				67,000
OTHER ADMINISTRATIVE		65,000	58,000		60,000				50,000
OTHER POSITIONS		54,000	47,500						

*Members of the American Psychological Association.

NOTE: Blanks indicate insufficient number of respondents. All Salaries are reported for 11-12 month periods, with the exception of faculty salaries that are for 9-10 months. Converting 9-10 month to 11-12 month periods can be done by multiplying by 11/9.

TABLE 93

**MEDIAN AND MEAN SALARIES OF DOCTORAL-LEVEL PSYCHOLOGISTS + ON 11-12 MONTH BASIS
BY TYPE OF POSITION AND YEARS OF WORK EXPERIENCE, 1987**

TYPE OF POSITION	YEARS OF WORK EXPERIENCE							
	0-1	2-4	5-9	10-14	15-19	20-24	25-29	30 +
EDUCATIONAL ADMINISTRATION								
Median	\$	\$	\$45,222	\$48,000	\$51,000	\$50,000	\$53,000	\$70,000
Mean			46,158	49,079	50,199	55,436	55,000	72,962
RESEARCH								
Median		32,000	38,000	45,000	51,000	52,500	63,000	63,000
Mean		32,678	37,630	45,545	55,190	55,850	63,154	59,000
RESEARCH ADMINISTRATION								
Median		32,500	42,000	50,000	60,000	55,000		67,500
Mean		33,200	43,810	55,061	60,962	56,667		69,550
DIRECT HUMAN SERVICES (Licensed Only)								
Median	31,000	33,000	42,000	47,000	50,000	52,278	50,000	59,000
Mean	31,795	38,357	48,658	55,787	59,643	59,424	60,114	63,832
DIRECT HUMAN SERVICES* (Licensed and Not Licensed)								
Median		23,000	30,000	35,000	37,000	40,944	43,389	42,889
Mean		24,341	31,046	37,379	40,011	42,296	52,843	46,444
ADMINISTRATION OF HUMAN SERVICES								
Median		36,000	40,500	42,000	47,000	50,000	52,000	55,000
Mean		38,564	42,752	44,421	49,784	53,469	53,822	59,135
APPLIED PSYCHOLOGY (Industrial/org. psych.)								
Median		43,500	55,000	60,000	65,000	86,000		76,500
Mean		46,278	59,340	61,622	75,667	111,848		89,722
APPLIED PSYCHOLOGY (Other Psychology)								
Median			48,000	50,000	56,500			
Mean			47,750	59,000	64,357			
ADMINISTRATION OF APPLIED PSYCHOLOGY								
Median			43,000	50,500	59,000	68,000		81,000
Mean			63,071	63,882	70,423	86,857		123,200
OTHER ADMINISTRATIVE								
Median			46,000	46,000	57,000	71,000	68,500	70,000
Mean			48,364	52,615	60,152	91,056	86,093	74,462

+ Members of the American Psychological Association.

NOTE: Blanks indicate fewer than 8 respondents.

*Includes Only Master's Level Psychologists.

SOURCE: American Institute of Physics, 1987 Salaries, Society Membership Survey, Unpublished

TABLE 94

1987 MEDIAN AND MEAN SALARIES OF PHYSICISTS* BY YEARS SINCE DEGREE, TYPE OF EMPLOYER AND DEGREE LEVEL

TYPE OF EMPLOYER & DEGREE LEVEL	YEARS SINCE DEGREE						
	0-4	5-9	10-14	15-19	20-24	20 +	25 +
INDUSTRY							
Ph.Ds.							
Median	\$46,400	\$54,000	\$60,000	\$66,000	\$70,000	\$	\$72,600
Mean	46,500	55,800	62,000	67,800	76,900		77,600
Master's							
Median	38,600	45,500	55,000	60,000		60,000	
Mean	40,900	47,600	56,000	59,500		65,500	
Bachelor's							
Median	31,000	41,000	49,000	45,000		57,100	
Mean	31,800	42,100	50,300	52,100		64,600	
GOVERNMENT							
Ph.Ds.							
Median	40,000	42,600	50,000	57,000	59,500		69,000
Mean	42,000	44,000	50,700	56,900	60,100		64,500
UNIVERSITY 11-12 Month							
Ph.Ds.							
Median	35,000	39,100	49,400	54,300	59,000		65,000
Mean	36,500	41,700	52,600	58,200	61,600		68,300
UNIVERSITY 9-10 Month							
Ph.Ds.							
Median	30,300	34,600	38,000	43,000	45,000		55,000
Mean	31,900	35,400	40,000	44,400	47,600		55,800
SECONDARY SCHOOL							
Master's							
Median		31,400	30,000	35,000		34,100	
Mean		31,400	31,300	34,700		35,700	
FFR&DC**							
Ph.Ds.							
Median	45,000	51,600	55,900	60,000	60,500		65,600
Mean	44,500	50,400	56,100	60,900	64,200		70,700

*Members of the AIP Member Societies. **Federally funded R & D Centers.

SOURCE: American Institute of Physics, 1987 Salaries, Society Membership Survey Unpublished

TABLE 95

1987 SALARIES OF PHYSICISTS* BY TYPE OF EMPLOYER AND DEGREE LEVEL

TYPE OF EMPLOYER	Ph. D.			MASTER'S		
	NO.	MEDIAN	MEAN	NO.	MEDIAN	MEAN
University 9-12 month	814	\$43,300	\$46,400			
11-12 month	575	48,000	49,800			
4- Year College 9-10 month	142	33,300	35,200			
Junior College				56	\$35,000	\$34,600
Industry/Self-Employed	1,014	59,500	63,000	303	52,700	56,000
Government	348	54,000	54,400	79	45,600	47,600
FFR&DC**	430	56,400	57,600	38	50,000	48,000
Secondary School				151	32,000	33,200
Nonprofit	91	50,500	52,100			
Hospital	52	55,000	58,600	52	46,500	46,900

* Includes only members of the AIP member societies.

** Federally-funded research and development centers.

SOURCE: American Institute of Physics, 1987 Salaries, Society Membership Survey, Unpublished

TABLE 96

1987 SALARIES OF INDUSTRIAL PH.D. PHYSICISTS* BY YEARS SINCE DEGREE AND PRIMARY WORK ACTIVITY

PRIMARY WORK ACTIVITY	YEARS SINCE DEGREE				
	0-4	5-9	10-14	15-19	20 +
Basic Research					
Median	\$43,000	\$53,000	\$60,800	\$70,000	\$75,200
Mean	43,900	52,800	64,800	71,200	80,600
Applied Research					
Median	45,000	53,000	59,500	63,000	68,000
Mean	45,300	54,200	60,200	65,700	71,000
Development, Design & Engineering					
Median	48,000	53,300	59,900	64,900	67,000
Mean	47,000	53,900	59,100	65,400	72,300
Administration					
Median			67,000	72,000	80,400
Mean			71,700	75,400	90,300

*Members of the AIP Member Societies.

SOURCE: American Institute of Physics, 1987 Salaries, Society Membership Survey Unpublished

TABLE 97

1987 MEDIAN SALARIES OF PH.D. PHYSICISTS* BY GEOGRAPHIC REGION AND TYPE OF EMPLOYER

GEOGRAPHIC REGION	TYPE OF EMPLOYER		
	Academic	Industry	Other
New England	\$45,000	\$63,000	\$55,000
Middle Atlantic	45,000	60,000	54,000
South Atlantic	43,600	58,000	55,000
East North Central	42,300	54,000	52,000
East South Central	39,000		51,800
West North Central	37,400	54,500	
West South Central	41,300	58,500	
Mountain	42,000	60,000	56,600
Pacific	48,000	60,000	56,900
OVERALL	43,000	59,500	55,000

* Includes only member of the AIP member Societies.

Note: Blanks indicate too few respondents to calculate reliable medians.

TABLE 98

1987 SALARIES OF PH.D. PHYSICISTS* BY GEOGRAPHIC REGION

GEOGRAPHIC REGION	NO.	MEDIAN	MEAN
New England	338	\$53,400	\$54,800
Middle Atlantic	724	53,000	55,500
South Atlantic	625	50,300	52,600
East North Central	450	46,000	48,600
East South Central	133	46,600	46,400
West North Central	135	42,000	45,600
West South Central	202	47,000	50,100
Mountain	329	51,600	53,000
Pacific	713	55,800	58,100

* Includes only members of the AIP member Societies.

SOURCE: American Institute of Physics, 1987 Salaries, Society Membership Survey, Unpublished

TABLE 99

1987 SALARIES OF PH.D. PHYSICISTS* BY YEARS SINCE PH.D.

YEARS SINCE PH. D.	NUMBER	MEDIAN	MEAN
0-4	511	\$36,000	\$36,300
5-9	591	46,000	46,100
10-14	553	52,000	52,800
15-19	703	55,000	56,600
20-24	547	56,100	59,000
25-29	337	60,500	62,900
30 +	385	63,400	65,900

* Includes only members of the AIP member societies.

TABLE 100

1987 SALARIES OF ACADEMIC AND INDUSTRIAL PH.D. PHYSICISTS* BY YEARS SINCE DEGREE AND SEX

YEARS SINCE DEGREE	MALE			FEMALE		
	NO.	MEDIAN	MEDIAN AGE	NO.	MEDIAN	MEDIAN AGE
0-6						
Academic	278	\$29,000	33	33	\$26,400	33
Industrial	207	48,000	33	28	43,000	32
7+						
Academic	1,256	48,000	49	74	40,800	47
Industrial	739	63,000	46	27	56,700	39

* Includes only members of the AIP member societies.

SOURCE: American Institute of Physics, 1987 Salaries, Society Membership Survey, Unpublished

TABLE 101

1987 SALARIES OF Ph. D. PHYSICISTS* BY SELECTED STATES

STATE	Number	Median	Mean
Alabama	28	\$42,600	\$44,500
Arizona	47	46,500	50,600
California	642	56,500	59,200
Northern	315	57,100	59,700
Southern	326	56,000	58,700
Colorado	83	49,500	51,500
Connecticut	71	53,000	55,400
Delaware	28	49,000	48,700
District of Columbia	147	57,900	57,200
Florida	54	46,000	48,400
Georgia	44	49,000	49,700
Illinois	147	46,000	48,700
Indiana	49	48,500	48,900
Iowa	26	38,000	43,300
Kansas	21	33,000	37,600
Louisiana	21	40,600	43,300
Maryland	156	52,000	52,900
Massachusetts	234	54,800	55,600
Michigan	84	45,000	49,300
Minnesota	41	48,700	55,000
Missouri	27	45,000	45,500
New Jersey	218	56,600	60,000
New Mexico	148	56,500	57,800
New York	352	52,000	55,300
Northern	178	50,000	53,600
Southern	174	54,200	57,100
North Carolina	50	46,200	49,000
Ohio	118	50,000	49,100
Oregon	21	46,800	49,000
Pennsylvania	154	49,400	49,600
Tennessee	83	48,500	48,600
Texas	149	50,000	51,900
Utah	23	44,000	43,900
Virginia	107	51,000	56,400
Washington	39	48,000	51,500
Wisconsin	51	42,000	45,400

* Includes only members of the AIP member societies.

TABLE 102

**NUMBER, MEAN AND MEDIAN SALARIES AND COMPENSATION OF DATA PROCESSING
PERSONNEL BY JOB TITLE, 1988**

JOB TITLE	SALARY			TOTAL COMPENSATION		
	Number Reported	Mean	Median	Number Reported	Mean	Median
MIS & Data Processing Director	445	\$49,602	\$47,005	444	\$52,217	\$49,000
MIS & Data Processing Deputy Director	37	51,383	48,720	34	50,900	47,289
MIS & Data Processing Manager	73	44,182	43,000	72	45,547	43,616
MIS & Data Processing Supervisor	60	39,969	40,000	60	40,849	40,300
MIS Manager	44	52,877	52,750	44	54,831	54,938
MIS Supervisor	31	41,005	39,800	31	41,914	40,040
MIS Specialist	44	42,520	42,761	44	42,577	42,761
DP Manager	70	46,000	44,900	70	48,216	47,500
DP Supervisor	53	36,976	37,212	53	37,952	37,500
Lead DP Specialist	38	31,508	31,200	38	31,949	31,200
Senior DP Specialist	41	27,523	26,645	41	27,695	26,645
Intermediate DP Specialist	22	24,111	23,000	22	24,116	23,000
Lead Data Base Specialist	22	38,045	38,378	22	38,410	38,378
Senior Data Base Specialist	125	44,549	49,000	44	37,061	36,450
Intermediate Data Base Specialist	210	41,868	43,000	22	32,297	31,951
Systems Analysis & Systems Programming Supervisor	23	40,833	40,815	23	41,499	41,000
Senior Systems Analyst/Systems Programmer	68	36,051	35,550	65	35,834	35,830
Intermediate Systems Analyst/Systems Programmer	35	31,513	32,472	35	31,717	32,472
Systems Analysis/Applications Programming Manager	30	49,244	48,830	29	49,890	49,350
Lead Systems Analyst/Applications Programmer	239	36,801	36,800	239	37,195	36,982
Senior Systems Analyst/Applications Programmer	724	36,990	36,000	564	34,232	34,000
Intermediate Systems Analyst/Applications Programmer	863	33,606	35,107	488	29,574	29,290
Junior Systems Analyst/Applications Programmer	281	31,447	33,708	79	25,893	26,572
Systems Analysis Supervisor	27	39,308	40,308	27	40,353	42,000
Lead Systems Analyst	140	49,195	55,968	59	40,170	41,100
Senior Systems Analyst	87	38,041	38,400	87	38,676	39,240
Intermediate Systems Analyst	70	34,618	34,480	69	34,858	33,960
Junior Systems Analyst	12	26,101	23,088	12	26,101	23,088
Systems Programming Manager	27	49,361	52,000	27	49,780	52,000
Lead Systems Programmer	58	41,147	41,904	58	41,431	42,008
Senior Systems Programmer	131	38,522	38,000	131	38,699	38,000
Intermediate Systems Programmer	185	31,346	32,316	185	31,408	32,470
Junior Systems Programmer	35	26,187	24,300	35	26,353	25,020
Applications Programming Supervisor	28	38,375	36,750	27	39,114	37,660
Lead Applications Programmer	110	38,863	35,619	110	39,109	37,525
Senior Applications Programmer	223	33,894	34,000	223	34,069	35,100
Intermediate Applications Programmer	502	28,618	27,486	499	28,790	27,500
Junior Applications Programmer	215	22,563	22,000	215	22,741	22,100
Applications Programmer Trainee	98	21,557	22,900	69	19,940	20,000
Senior Documentation Specialist	26	24,288	20,940	26	24,620	20,940
User Support/Liaison/Coordination Supervisor	37	32,988	31,742	37	33,121	31,742
Senior User Support/Liaison/Coordination Specialist	76	28,321	27,144	71	28,035	26,609
Intermediate User Support/Liaison/Coordination Specialist	94	25,683	25,000	94	25,801	25,030
Senior Communications Specialist	20	30,852	28,264	20	30,852	28,264
Intermediate Communications Specialist	54	25,951	26,821	54	26,079	26,821
Computer Operations Manager	68	42,067	43,956	67	42,874	44,013
Data I/O Control Supervisor	25	28,605	27,396	25	28,778	27,396
Computer Operations Supervisor	199	28,306	26,458	199	28,672	27,011
Lead Computer Operator	103	21,921	21,852	103	22,162	22,000
Senior Computer Operator	291	22,235	21,200	290	22,386	21,434
Intermediate Computer Operator	616	19,485	18,325	613	19,599	18,325
Data Entry Supervisor	41	22,348	21,008	41	22,552	21,008
Lead Data Entry Operator	67	17,591	16,680	67	17,672	16,765
Senior Data Entry Operator	79	18,481	18,000	79	18,749	18,000
Intermediate Data Entry Operator	291	13,958	12,896	291	14,008	12,896

Blanks Indicate too few individuals for data to be Meaningful.

TABLE 103

MEDIAN ANNUAL SALARIES OF DATA PROCESSING PERSONNEL BY JOB TITLE AND TYPE OF EMPLOYER, 1988

JOB TITLE	TYPE OF EMPLOYER			
	All Mfg./ Extractive Employers	All Non-Mfg. Employers	Educational Institutions	State & Local Government
MIS & Data Processing Director	\$50,000	\$45,693	\$42,500	\$44,039
MIS & Data Processing Deputy Director	52,000	46,579	44,525	44,483
MIS & Data Processing Manager	41,820	43,317	41,749	43,291
MIS & Data Processing Supervisor	41,000	38,100	33,635	42,024
MIS Manager	56,400	51,000		40,012
MIS Supervisor	38,975	39,900		
MIS Specialist		43,181		
DP Manager	46,070	44,100		43,242
DP Supervisor	34,800	37,721	39,770	
Lead DP Specialist	27,000	31,900	27,219	34,104
Senior DP Specialist	25,000	27,072	27,072	23,008
Intermediate DP Specialist	30,000	23,000		
Lead Data Base Specialist	43,850	36,756	28,212	34,104
Senior Data Base Specialist	37,200	49,000		32,922
Intermediate Data Base Specialist		43,000		
Systems Analysis & Systems Programming Supervisor	52,300	37,275		34,104
Senior Systems Analyst/Systems Programmer	32,400	37,260	30,000	37,260
Intermediate Systems Analyst/Systems Programmer	34,157	32,472		32,472
Systems Analysis/Applications Programming Manager		48,360		
Lead Systems Analyst/Applications Programmer	34,800	36,892	32,186	35,062
Senior Systems Analyst/Applications Programmer	34,286	36,870	28,417	29,335
Intermediate Systems Analyst/Applications Programmer	30,241	39,216	22,230	25,658
Junior Systems Analyst/Applications Programmer	27,250	33,708	24,710	21,329
Systems Analysis Supervisor	40,290	40,308	28,000	42,000
Lead Systems Analyst	37,100	55,968	32,000	40,771
Senior Systems Analyst	40,200	38,000		40,327
Intermediate Systems Analyst	35,580	33,288		31,226
Junior Systems Analyst	23,088			23,088
Systems Programming Manager		52,000		
Lead Systems Programmer	42,300	41,756	28,750	33,216
Senior Systems Programmer	39,230	38,000		33,152
Intermediate Systems Programmer	30,000	32,614	25,500	39,000
Junior Systems Programmer	24,180	24,331		
Applications Programming Supervisor	40,800	34,956		30,877
Lead Applications Programmer	31,250	37,800		32,472
Senior Applications Programmer	31,004	36,500	22,550	29,448
Intermediate Applications Programmer	25,690	28,000	21,983	35,000
Junior Applications Programmer	20,000	22,566	21,067	22,633
Applications Programmer Trainee	19,850	23,104		18,996
Senior Documentation Specialist		20,940		20,940
User Support/Liaison/Coordination Supervisor		31,460	29,136	31,411
Senior User Support/Liaison/Coordination Specialist	26,873	27,288	25,000	22,517
Intermediate User Support/Liaison/Coordination Specialist	25,620	24,750	19,802	22,500
Senior Communications Specialist		28,221		28,221
Intermediate Communications Specialist	26,700	26,821		26,089
Computer Operations Manager	40,200	44,300		44,586
Data I/O Control Supervisor		25,320		27,586
Computer Operations Supervisor	27,050	26,000	22,008	27,011
Lead Computer Operator	20,508	22,107	21,722	26,673
Senior Computer Operator	19,500	21,632	20,000	20,940
Intermediate Computer Operator	18,000	18,325	22,406	21,716
Data Entry Supervisor	23,800	20,696		22,824
Lead Data Entry Operator	19,100	16,549	16,704	15,648
Senior Data Entry Operator	17,900	18,090	19,850	19,674
Intermediate Data Entry Operator	15,000	12,480	18,727	16,062

Blanks indicate too few individuals for data to be meaningful.

TABLE 104

MEDIAN ANNUAL SALARIES OF DATA PROCESSING PERSONNEL BY JOB TITLE AND LEVEL OF EDUCATION, 1988

JOB TITLE	LEVEL OF EDUCATION						
	No College	Some College No Degree	Associate Degree	Bachelor Degree	MA/MS Degree	MBA Degree	Doctoral Degree
MIS & Data Processing Director	\$50,000	\$45,600	\$47,625	\$46,000	\$50,000	\$49,000	\$47,288
MIS & Data Processing Deputy Director	57,000		45,595	46,579	41,250	57,373	
MIS & Data Processing Manager	33,750	45,650	35,820	41,749	54,392		
MIS & Data Processing Supervisor		43,404	35,190	41,000	46,774		
MIS Manager		50,400	55,000	56,100	55,105		
MIS Supervisor		42,858	38,200	39,800			
MIS Specialist		39,860		45,824	42,074		
DP Manager	40,000	44,600	38,094	46,190			
DP Supervisor	33,500	42,000	32,850	38,280			
Lead DP Specialist	31,200		28,058	28,109			
Senior DP Specialist	19,400	20,520	34,000	28,254			
Intermediate DP Specialist		14,100		25,000			
Lead Data Base Specialist				41,808			
Senior Data Base Specialist		35,500		35,000	38,410		
Intermediate Data Base Specialist			26,380	34,568			
Systems Analysis & Systems Programming Supervisor		50,600		40,000			
Senior Systems Analyst/Systems Programmer	30,600	34,774	37,260	36,616	31,914		
Intermediate Systems Analyst/Systems Programmer		27,150	33,438	32,393			
Systems Analysis/Applications Programming Manager			45,912	53,592			
Lead Systems Analyst/Applications Programmer	38,050	33,600	33,550	36,720	43,179		
Senior Systems Analyst/Applications Programmer	33,600	31,435	32,000	34,312	32,400	33,552	
Intermediate Systems Analyst/Applications Programmer	28,926	27,400	27,000	29,196	27,600	35,000	
Junior Systems Analyst/Applications Programmer		27,500	20,090	26,494			
Systems Analysis Supervisor		43,000		40,200			
Lead Systems Analyst	42,500	35,050	38,500	40,002		41,114	
Senior Systems Analyst	33,300	40,440	37,660	37,200		43,785	
Intermediate Systems Analyst	25,875	31,936	31,226	35,676			
Junior Systems Analyst				23,088			
Systems Programming Manager				52,000			
Lead Systems Programmer	34,320	39,150	41,768	44,044			
Senior Systems Programmer	37,596	36,600	37,524	38,000			
Intermediate Systems Programmer		33,000	32,235	30,764			
Junior Systems Programmer		24,300	23,400	32,150			
Applications Programming Supervisor	31,000	41,650		37,000			
Lead Applications Programmer		35,164	33,020	48,300			
Senior Applications Programmer	34,000	29,399	28,500	41,900	35,468		
Intermediate Applications Programmer	25,890	28,000	35,000	26,254	30,156		
Junior Applications Programmer	23,200	22,633	22,000	22,430			
Applications Programmer Trainee		14,814	19,700	22,250			
Senior Documentation Specialist	18,930	23,450					
User Support/Liaison/Coordination Supervisor	25,648	30,000	31,886	34,985			
Senior User Support/Liaison/Coordination Specialist	21,500	28,534	27,026	30,955	35,000		
Intermediate User Support/Liaison/Coordination Specialist	22,000	28,500	25,000	24,698	28,300		
Senior Communications Specialist	21,112	31,770		41,000			
Intermediate Communications Specialist	26,089	20,068	24,300	28,000			
Computer Operations Manager	40,600	44,013	37,700	45,000			
Data I/O Control Supervisor	25,320	24,048	38,400				
Computer Operations Supervisor	26,592	26,437	26,000	36,882			
Lead Computer Operator	23,522	24,895	26,673	28,538			
Senior Computer Operator	21,056	20,384	27,030	20,856			
Intermediate Computer Operator	18,346	18,098	19,420	19,344			
Data Entry Supervisor	20,176	23,800					
Lead Data Entry Operator	16,346	18,540		23,577			
Senior Data Entry Operator	17,944	17,056	24,000				
Intermediate Data Entry Operator	14,942	10,795	15,506				

Blanks indicate too few individuals for data to be meaningful.

TABLE 105

MEDIAN ANNUAL SALARIES OF DATA PROCESSING PERSONNEL BY JOB TITLE AND LENGTH OF EXPERIENCE, 1988

JOB TITLE	LENGTH OF EXPERIENCE							
	Under 1 Year	1 or 2 Years	3 or 4 Years	5 - 9 Years	10 - 14 Years	15 - 19 Years	20 - 24 Years	25 or More
MIS & Data Processing Director	\$	\$34,000	\$37,600	\$39,000	\$44,200	\$47,105	\$52,503	\$55,973
MIS & Data Processing Deputy Director			46,579	43,000	47,535	53,198	61,360	
MIS & Data Processing Manager			42,500	35,000	46,000	42,672	57,660	39,000
MIS & Data Processing Supervisor				33,600	39,500	46,873	34,800	
MIS Manager				41,900	52,210	56,350	63,000	57,200
MIS Supervisor				39,666	39,800	44,225		
MIS Specialist				34,662	39,420	42,341	41,520	
DP Manager				40,000	40,000	49,700	44,600	55,723
DP Supervisor			29,000	29,200	42,000	40,480	39,250	33,250
Lead DP Specialist			27,219	31,200	31,758			
Senior DP Specialist		24,679	23,500	27,654	38,000			
Intermediate DP Specialist			21,000	31,000				
Lead Data Base Specialist				35,076	42,600			
Senior Data Base Specialist			28,590	49,000	38,384	45,000		
Intermediate Data Base Specialist			43,000	29,920				
Systems Analysis & Systems Programming Supervisor				41,934	40,407	48,424		
Senior Systems Analyst/Systems Programmer		28,829	34,476	35,550	37,016	40,300	41,692	
Intermediate Systems Analyst/Systems Programmer		33,438	27,500	32,934				
Systems Analysis/Applications Programming Manager				57,009	49,350			54,226
Lead Systems Analyst/Applications Programmer			35,062	34,777	40,966	37,900	40,560	44,093
Senior Systems Analyst/Applications Programmer	23,304	26,411	34,000	39,150	35,340	34,878	35,150	36,021
Intermediate Systems Analyst/Applications Programmer	25,980	27,250	39,216	29,314	30,506	31,056	32,550	30,016
Systems Analysis Supervisor			34,992	40,200	35,964	43,550		
Lead Systems Analyst			34,875	38,407	55,968	43,000		
Senior Systems Analyst		40,327	38,648	34,092	40,374	41,880		42,380
Intermediate Systems Analyst		29,388	29,724	32,302	34,000	35,790		
Junior Systems Analyst			23,088	23,088				
Systems Programming Manager				37,387		55,250		
Lead Systems Programmer			36,230	42,478	41,808	43,350	37,160	
Senior Systems Programmer			33,204	34,965	42,000	39,150	39,300	
Intermediate Systems Programmer		30,000	30,352	33,750	39,000			
Junior Systems Programmer		24,300	24,100	23,400				
Applications Programming Supervisor				33,552	37,660	39,600	37,000	
Lead Applications Programmer			31,479	48,300	36,200			
Senior Applications Programmer	19,275	22,000	30,096	41,900	29,352	34,000	34,000	
Intermediate Applications Programmer	24,500	24,000	27,000	35,000	28,900			
Junior Applications Programmer	20,825	22,633	22,000	25,200				
Applications Programmer Trainee	24,000	18,000	19,476					
Senior Documentation Specialist			23,450					
User Support/Liaison/Coordination Supervisor		30,589	34,938	34,992		31,443	31,174	
Senior User Support/Liaison/Coordination Specialist		23,077	26,500	33,744	27,500	22,703	26,600	
Intermediate User Support/Liaison/Coordination Specialist	27,670	22,650	24,168	25,100	32,000			
Senior Communications Specialist			24,068	28,221	31,618			
Intermediate Communications Specialist		24,600	25,195	26,220	28,000			
Computer Operations Manager				40,000	38,254	45,000	46,659	49,029
Computer Operations Supervisor		20,190	24,500	25,376	26,458	33,243	32,000	29,669
Lead Computer Operator		17,056	20,500	20,779	22,800	24,986	27,972	
Senior Computer Operator	13,500	17,000	19,500	24,600	21,632	23,041	25,116	26,450
Intermediate Computer Operator	15,294	17,304	17,680	19,136	25,690	21,570	22,993	18,398
Data Entry Supervisor			24,650	20,016	20,176	21,008	21,424	
Lead Data Entry Operator		15,648	16,704	16,640	17,576		19,608	
Senior Data Entry Operator				18,050	17,056	19,258	20,662	
Intermediate Data Entry Operator	12,896	15,000	15,246	14,382	16,225	16,704		

Blanks indicate too few individuals for data to be meaningful.

TABLE 106

MEDIAN ANNUAL SALARIES OF DATA PROCESSING PERSONNEL BY JOB TITLE AND GEOGRAPHICAL AREA, 1988

JOB TITLE	GEOGRAPHICAL AREA						
	North-Eastern States	Southern States	Mid-Western States	North Central States	South Western States	Mountain States	Pacific States
MIS & Data Processing Director	\$51,725	\$45,785	\$45,000	\$45,650	\$44,387	\$43,000	\$51,000
MIS & Data Processing Deputy Director	50,500	44,539	56,175	59,945	54,396		
MIS & Data Processing Manager	43,900	41,749	42,758	37,750	50,000	41,310	
MIS & Data Processing Supervisor	40,250	33,000	37,050		45,300	43,000	46,527
MIS Manager	56,550	51,990	56,222	52,210			
MIS Supervisor	40,250	47,858	39,800			39,100	39,900
MIS Specialist	39,420			45,824			40,967
Lead Data Base Specialist		40,000	41,800				41,856
Senior Data Base Specialist		36,500	37,200	33,150	49,000	35,000	
Intermediate Data Base Specialist		34,877	33,292	34,800	43,000		
Systems Analysis & Systems Programming Supervisor	41,934	43,359	49,500	34,104	35,791		
Senior Systems Analyst/Systems Programmer	42,000	37,260	31,710	33,990	34,697	35,700	49,101
Intermediate Systems Analyst/Systems Programmer	36,350	33,784	32,393	32,472			
Systems Analysis/Applications Programming Manager	51,000	49,350	54,392	45,600			
Lead Systems Analyst/Applications Programmer	36,800	35,062	35,921	37,000	44,093	45,000	40,802
Senior Systems Analyst/Applications Programmer	33,600	31,500	31,913	32,162	47,604	34,000	36,670
Intermediate Systems Analyst/Applications Programmer	32,400	28,461	30,028	24,600	39,216	28,300	36,720
Junior Systems Analyst/Applications Programmer	32,000	23,000	25,000	18,550	33,708	26,000	27,000
Systems Analysis Supervisor		40,308	31,746			40,200	48,288
Lead Systems Analyst	44,000	42,000	42,400	33,288	55,968		32,000
Senior Systems Analyst	41,254	36,746	40,440	34,092	43,000	31,680	38,324
Intermediate Systems Analyst	31,226	31,155	35,580	41,000	35,000		30,000
Junior Systems Analyst				23,088			
Systems Programming Manager		46,960		52,000			
Lead Systems Programmer	44,528	34,020	41,520		47,650		
Senior Systems Programmer	50,000	33,152	36,530	39,150	40,458		47,398
Intermediate Systems Programmer	31,000	30,764	34,160	26,500	33,719		39,000
Junior Systems Programmer		24,200	26,958	33,300	24,000		
Applications Programming Supervisor	32,000		37,660	34,956	30,877		43,212
Lead Applications Programmer	38,046	35,619	28,840	32,472	48,300	34,120	
Senior Applications Programmer	31,350	28,500	30,100	29,448	41,900	32,150	33,475
Intermediate Applications Programmer	28,500	25,970	29,568	25,452	29,027	27,450	26,988
Junior Applications Programmer	25,680	21,790	22,151	21,800	21,027	26,352	21,738
Applications Programmer Trainee	20,000	18,000	22,650	17,500	25,800		24,000
Senior Documentation Specialist		22,000		20,940			
User Support/Liaison/Coordination Supervisor	35,000	31,178	32,076	31,886	32,992		38,242
Senior User Support/Liaison/Coordination Specialist	32,500	26,395	24,655	26,122	26,158		29,000
Intermediate User Support/Liaison/Coordination Specialist	25,000	23,150	25,500	27,300	22,655	22,200	29,420
Senior Communications Specialist		34,750	31,237		28,221		
Intermediate Communications Specialist		26,089	26,700	27,442	22,836		28,000
Computer Operations Manager	47,300	43,000	43,900	33,000	45,000		
Data I/O Control Supervisor		24,738	20,890		32,500		
Computer Operations Supervisor	28,750	27,005	26,750	25,532	24,797	24,012	29,418
Lead Computer Operator	23,600	21,942	20,508	20,992	22,000	19,860	22,488
Senior Computer Operator	22,925	20,000	20,400	20,940	27,030	18,000	24,560
Intermediate Computer Operator	19,000	17,000	20,000	18,096	17,194	18,480	20,664
Data Entry Supervisor	19,858	20,176	23,400	21,400			26,728
Lead Data Entry Operator		16,704	19,100	15,648	16,920		20,040
Senior Data Entry Operator	20,085	17,576	17,950	18,093	14,744		22,662
Intermediate Data Entry Operator	12,000	15,000	14,643	10,795	15,515	14,200	20,045
DP Manager	36,000	40,165	48,162	41,600	46,380		46,100
DP Supervisor	30,200	42,000	39,065	38,960			34,956
Lead DP Specialist		29,000	27,000	34,104	31,900		
Senior DP Specialist	35,600	21,000	21,338			19,000	26,645
Intermediate DP Specialist	25,000	16,200					

Blanks indicate too few individuals for data to be meaningful.

SOURCE: Association of Data Processing Services Organizations and Mercer-Meidinger-Hansen, Inc. 1989 ADAPSO Compensation Survey Results

TABLE 107

MEAN AND MEDIAN ANNUAL SALARIES OF OPERATING SYSTEMS/SOFTWARE PROGRAMMER/ANALYSTS BY GEOGRAPHIC AREA AND LEVEL, 1989

GEOGRAPHIC AREA	LEAD/SPECIALIST		SENIOR		INTERMEDIATE		ASSOCIATE	
	MEAN	MEDIAN	MEAN	MEDIAN	MEAN	MEDIAN	MEAN	MEDIAN
Northeast	\$48,600	\$47,400	\$45,400	\$44,700	\$34,400	\$33,500	\$30,300	\$29,000
Southeast	48,000	48,200	40,600	40,800	34,100	33,200	28,700	28,000
Midwest	41,400	39,400	43,000	42,400	33,500	31,000	34,400	34,200
Southwest	49,300	49,300	45,600	41,900	38,500	33,500		
California/Hawaii	44,700	45,000	40,700	38,200	32,900	32,800		
Overall	46,900	47,400	42,900	41,800	33,800	32,500	31,800	30,000

TABLE 108

MEAN AND MEDIAN ANNUAL SALARIES OF SOFTWARE DEVELOPMENT PROGRAMMER/ANALYSTS BY GEOGRAPHIC AREA AND LEVEL, 1989

GEOGRAPHIC AREA	SENIOR		INTERMEDIATE		ASSOCIATE		TRAINEE	
	MEAN	MEDIAN	MEAN	MEDIAN	MEAN	MEDIAN	MEAN	MEDIAN
Northeast	\$47,100	\$47,300	\$38,900	\$39,500	\$31,500	\$30,500	\$26,700	\$26,500
Southeast	42,200	40,600	35,300	34,300	26,700	26,800		
Midwest	49,500	50,000	40,200	39,600	31,600	30,000	29,400	29,300
Southwest	44,200	45,400						
NW/Rocky Mts.	48,100	47,200						
California/Hawaii	53,300	53,000	43,800	44,000	36,200	35,000		
Overall	46,600	46,000	38,100	38,000	29,900	29,400	26,300	26,100

SOURCE: Association of Data Processing Services Organizations and Mercer-Meidinger-Hansen, Inc.
1989 ADAPSO Compensation Survey Results

TABLE 109

MEAN AND MEDIAN ANNUAL SALARIES OF TECHNICAL WRITERS BY GEOGRAPHIC AREA AND LEVEL, 1989

GEOGRAPHIC AREA	SENIOR		INTERMEDIATE		ASSOCIATE	
	MEAN	MEDIAN	MEAN	MEDIAN	MEAN	MEDIAN
Northeast	\$36,600	\$36,000	\$29,400	\$28,600	\$23,000	\$23,000
Southeast	32,200	32,100	27,200	26,900	23,900	25,000
Midwest	34,000	33,300	29,800	29,400	27,300	28,500
Southwest	31,600	31,100	27,700	27,400	21,900	21,400
California/Hawaii	37,500	37,000	26,700	29,000	30,500	28,700
Overall	35,100	35,000	28,900	28,500	24,200	23,600

TABLE 110

MEAN AND MEDIAN ANNUAL SALARIES OF CUSTOMER SERVICE REPRESENTATIVES BY GEOGRAPHIC AREA AND LEVEL, 1989

GEOGRAPHIC AREA	SENIOR		INTERMEDIATE		ASSOCIATE	
	MEAN	MEDIAN	MEAN	MEDIAN	MEAN	MEDIAN
Northeast	\$41,300	\$43,200	\$29,200	\$29,000	\$21,900	\$22,000
Southeast	35,900	35,400	27,500	27,000	24,800	24,600
Midwest	36,500	36,300	27,800	27,200	20,700	19,800
Southwest	35,100	34,700	27,400	27,000	23,100	21,600
California/Hawaii	44,100	43,600	35,600	34,100	28,500	30,800
Overall	39,300	38,200	28,500	27,900	22,800	21,600

TABLE 111

MEAN AND MEDIAN ANNUAL SALARIES OF CUSTOMER SUPPORT TECHNICIANS BY GEOGRAPHIC AREA AND LEVEL, 1989

GEOGRAPHIC AREA	SENIOR		INTERMEDIATE		ASSOCIATE	
	MEAN	MEDIAN	MEAN	MEDIAN	MEAN	MEDIAN
Northeast	\$43,300	\$44,300	\$37,800	\$38,300	\$30,500	\$29,900
Southeast	40,000	38,500	27,500	26,000	21,900	20,500
Midwest	34,300	33,500	28,700	29,100	25,300	25,300
Southwest	44,300	44,100	36,300	32,600	29,500	29,200
California & Hawaii	39,900	39,000	33,900	33,500	30,100	27,800
Overall	39,400	38,100	33,200	31,400	26,400	26,300

SOURCE: Association of Data Processing Services Organizations and Mercer-Meidinger-Hansen, 1989 ADAPSO Compensation Survey Results

TABLE 112

MEAN AND MEDIAN ANNUAL SALARIES OF APPLICATIONS PROGRAMMER/ANALYSTS BY GEOGRAPHIC AREA AND LEVEL, 1989

GEOGRAPHIC AREA	LEAD/SPECIALIST		SENIOR		INTERMEDIATE		ASSOCIATES		TRAINEE	
	MEAN	MEDIAN	MEAN	MEDIAN	MEAN	MEDIAN	MEAN	MEDIAN	MEAN	MEDIAN
Northeast	\$43,600	\$43,000	\$40,900	\$40,100	\$33,000	\$31,900	\$27,400	\$27,600	\$23,200	\$22,900
Southeast	44,700	43,800	37,600	37,100	31,700	31,500	25,000	25,000	21,800	22,100
Midwest	41,200	40,000	41,300	40,900	34,000	33,200	26,100	26,000	21,400	21,600
Southwest	44,300	44,100	38,300	36,600	33,400	32,100	26,000	26,100		
Northwest & Rocky Mts.	46,200	44,900								
California & Hawaii	44,200	44,000	41,000	40,000	33,800	33,000	28,200	27,500	21,000	20,000
Overall	44,100	43,400	40,100	39,000	33,300	32,400	26,100	26,300	21,300	20,500

SOURCE: Association of Data Processing Services Organizations and Mercer-Meidinger-Hansen, Inc., 1989 ADAPSO Compensation Survey Results

TABLE 113

MEDIAN SALARIES OF DATA PROCESSING PERSONNEL BY JOB TITLE AND GEOGRAPHIC AREA, 1989

JOB TITLE	G E O G R A P H I C A R E A					
	Total U.S.	Northeast	Southeast	Midwest	Southwest	California & Hawaii
Operating Systems/Software Programming Analysis Manager	\$66,200	\$67,500	\$52,500	\$67,000	\$58,800	\$64,500
Operating Systems/Software Programming Analysis Supervisor	53,700	54,000	46,200	51,300	55,000	61,900
Operating Systems/Software Architect/Consultant	55,300	55,000	56,000	51,600	65,300	54,900
Applications Programming/Analysis Manager	60,600	63,000	58,500	58,600	55,200	59,500
Applications Programming/Analysis Supervisor	46,700	50,100	48,400	44,200	41,400	47,600
Applications Architect/Consultant	55,000	59,500	43,900	52,400	54,900	52,400
Professional Services Project Manager	55,200	55,900	56,800	53,300	49,200	
Computer Operations Manager	48,600	42,700	40,100	53,000	46,700	62,600
Internal MIS Manager	59,600	60,300	58,600	58,000		54,100
Customer Support (Technical) Manager	49,200	50,000	47,600	47,000	51,800	54,100
Telecommunications Manager	59,100	57,200	45,500	57,500		
Telecommunications Supervisor	43,000	45,600	34,000	40,700		
Telecommunications Programmer/Analyst - Senior	42,000	45,000		40,100		
Telecommunications Programmer/Analyst - Intermediate	30,200	35,000	32,000	31,600		
Telecommunications Programmer/Analyst - Associate	23,900	24,100				
Data Entry Supervisor	25,900	25,700	23,200	32,400	24,100	
Data Processing Operations Supervisor	33,200	31,800	29,600	34,300	27,000	38,500
Software Development Architect/Consultant	60,300	67,700	54,500	68,700	45,000	67,700
Systems Consultant/Customer Support Specialist	43,900	42,400	34,900	43,500	42,000	40,100
Computer Operator - Senior	22,900	22,900	22,000	19,900	21,900	29,100
Computer Operator - Intermediate	19,000	18,900	19,000	20,700	19,000	22,700
Data Entry Operator - Senior	17,900	17,300	17,200	20,300	18,000	
Data Entry Operator - Intermediate	15,200	15,000	14,000	19,900	14,400	17,200

TABLE 114

MEDIAN SALARIES OF DATA PROCESSING PERSONNEL BY JOB TITLE AND TYPE OF SERVICE, 1989

JOB TITLE	TYPE OF SERVICE				
	Total U.S.	Processing Service	Software Products	Profess'l Services	Multi-Enviro.
Operating Systems/Software Programming Analysis Manager	\$66,200	\$61,600	\$70,500	\$62,700	\$67,500
Operating Systems/Software Programming Analysis Supervisor	53,700	53,900	64,900		52,100
Applications Programming/Analysis Manager	60,600	58,200	62,900	60,200	60,600
Applications Programming/Analysis Supervisor	46,700	43,900	47,300		49,500
Professional Services Project Manager	55,200	51,900	59,000		57,100
Computer Operations Manager	48,600	47,700	46,700	35,600	51,700
Internal MIS Manager	59,600		58,000		61,200
Customer Support (Technical) Manager	49,200	46,600	47,700		50,000
Telecommunications Manager	59,100	56,600	57,700		59,900
Telecommunications Supervisor	43,000	38,500			49,900
Data Entry Supervisor	25,900		30,600		26,400
Data Processing Operations Supervisor	33,200	32,000	30,000		34,700
Operating Systems/Software Architect/Consultant	55,300	65,700	49,900	50,400	55,100
Operating Systems/Software Programmer/Analyst Lead Spec.	47,400	49,900	45,000	44,300	47,400
Operating Systems/Software Programmer/Analyst - Senior	41,800	50,400	41,500	40,700	40,900
Operating Systems/Software Programmer/Analyst - Intermed.	32,500	35,000	32,500		32,100
Operating Systems/Software Programmer/Analyst - Associate	30,000	37,000	29,500		28,200
Operating Systems/Software Programmer/Analyst - Trainee	22,900				24,400
Applications Architect/Consultant	55,000		60,500		54,700
Applications Programmer/Analyst-Lead Specialist	43,400	44,000	44,100	39,900	43,200
Applications Programmer/Analyst-Senior	39,000	43,800	41,000	35,700	38,000
Applications Programmer/Analyst-Intermediate	32,400	33,400	33,000	30,000	30,000
Applications Programmer/Analyst-Associate	26,300	26,500	28,300		25,800
Applications Programmer/Analyst-Trainee	20,500	20,900	29,600		19,500
Software Development Architect/Consultant	60,300		67,200		55,700
Software Development Programmer/Analyst - Senior	46,000	50,000	51,200		44,600
Software Development Programmer/Analyst - Intermediate	38,000	42,000	42,000		36,700
Software Development Programmer/Analyst - Associate	29,400		29,100		29,600
Software Development Programmer/Analyst - Trainee	26,100		31,100		26,000
Telecommunications Programmer/Analyst - Senior	42,000		42,300		42,100
Telecommunications Programmer/Analyst - Intermediate	30,200	31,500			30,100
Telecommunications Programmer/Analyst - Associate	23,900				23,900
Technical Writer - Senior	35,000		35,800	30,000	34,100
Technical Writer - Intermediate	28,500	27,000	31,200		27,900
Technical Writer - Associate	23,600		24,500		23,300
Systems Consultant/Customer Support Specialist	43,900	43,200	40,000		50,000
Customer Service Representative - Senior	38,200	31,000	40,400		39,200
Customer Service Representative - Intermediate	27,900	26,500	31,300		28,300
Customer Service Representative - Associate	21,600	20,000	24,500		22,800
Customer Support Technician - Senior	38,100	36,000	40,300		37,100
Customer Support Technician - Intermediate	31,400	28,000	36,100		29,000
Customer Support Technician - Associate	26,300		27,000		25,200
Computer Operator - Senior	22,900	23,100	22,000	22,900	23,400
Computer Operator - Intermediate	19,000	20,400	19,400	18,900	18,900
Data Entry Operator - Senior	17,900	19,700	19,600	16,300	18,000
Data Entry Operator - Intermediate	15,200	15,600	17,400		14,100

SOURCE: Reprinted from DATAMATION, October 1, 1989, c 1989 by Cahners Publishing Company

TABLE 115

AVERAGE SALARIES OF DATA PROCESSING PERSONNEL BY POSITION & TYPE OF INDUSTRY, 1989

POSITION	ALL	TYPE OF INDUSTRY						
		Manufacturing		Finance	Bank	Government	Trans./Utilities	Education
		Consumer	Industrial					
CORPORATE STAFF								
Vice President	\$77,014	\$114,000	\$88,000	\$69,833	\$77,207	\$61,400	\$107,500	\$38,000
Director of DP/MIS	56,204	60,976	54,222	54,167	91,600	47,404	72,833	42,950
Technical Services Manager	56,395	65,429	56,500	52,667	75,667	41,483	60,000	30,000
Information Center/Data Center Manager	45,417	55,764	42,390	48,283	78,333	40,183	54,000	30,200
Director of Security	55,875	66,667		42,000	61,500	46,833	85,000	
SYSTEMS ANALYSIS								
Manager	50,666	52,429	48,682	51,000	59,450	46,000	54,333	41,325
Senior Systems Analyst	44,299	44,833	42,463	40,250	54,214	41,252	56,000	26,667
Lead Systems Analyst	41,118	45,000	40,797	41,233	48,000	39,040	45,000	26,000
Systems Analyst	35,403	42,200	29,636	34,480	37,000	37,000	37,400	33,500
Junior Systems Analyst	30,316	31,000	31,750	24,000	35,000	28,667	31,000	
APPLICATIONS PROGRAMMING								
Manager	49,164	52,263	53,000	55,000	41,500	50,333	50,500	20,000
Lead Applications Programmer	41,764	39,000	45,889	41,000	48,000	42,222	44,833	27,000
Senior Applications Programmer	36,669	33,000	33,429	40,667	45,000	37,778		25,000
Applications Programmer	30,856	34,429	30,038	29,740	38,000	32,686	31,825	18,000
Intermediate Applications Programmer	28,562	23,986	31,000	17,000	34,000	27,250	34,000	25,000
Junior Applications Programmer	24,257	25,333	24,556	24,750	22,500	25,248	29,750	15,033
SYSTEMS ANALYSIS/PROGRAMMING								
Manager	50,547	46,571	50,050	53,000	52,083	49,429	55,500	50,500
Lead Systems Analyst/Programmer	42,552	38,225	48,167	35,500	45,700	40,493	50,400	18,000
Senior Systems Analyst/Programmer	38,070	32,660	36,333	34,250	40,000	39,333	45,800	36,800
Systems Analyst/Programmer	33,062	31,050	31,500	31,250	33,400	35,829	37,486	28,167
Intermed. Systems Analyst/Programmer	30,733	24,917	30,000	24,767	30,750	32,500	34,750	
Junior Systems Analyst/Programmer	25,871	22,050	26,500	21,667	25,667	26,533	29,600	
OPERATING SYSTEMS PROGRAMMING								
Manager	50,156	52,000	49,188	49,000	51,750	43,800	58,250	40,000
Senior Systems Programmer	46,315	46,607	42,462	38,000	54,667	46,750	52,667	30,000
Intermediate Systems Programmer	38,488	38,000	32,456	36,333	45,100	34,250	43,600	
Junior Systems Programmer	30,547	24,333	26,500	29,000	25,350	38,000	40,000	
DATABASE ADMINISTRATION								
Manager	52,409	52,333	56,400	57,500	55,000	48,500	52,500	30,000
Database Administrator	42,307	44,667	42,625		29,000	40,661	44,000	35,000
DATACOM/TELECOM/CONNECTIVITY								
Manager	54,350	66,000	61,667	46,500	47,667	40,250	61,000	40,000
Analyst	43,242	37,333	28,575	31,500	39,125	57,400	45,500	
Network Engineer	41,211	54,000	40,000	28,500	37,250	57,500	41,500	21,500
Network Administrator	33,175	32,667	32,500	25,500	24,750	39,951	31,667	
COMPUTER OPERATIONS								
Manager	36,578	39,136	37,733	25,529	35,278	31,933	53,333	30,714
Shift Supervisor	32,074	31,429	35,100	26,200	28,100	32,127	39,000	
Lead Computer Operator	25,544	22,719	25,714	22,117	21,750	28,346	26,795	26,500
Computer Operator	20,716	20,231	20,223	17,527	18,789	22,019	28,920	18,800
Magnetic Media Librarian	30,053	22,000	30,000		28,000	33,467	41,000	
PRODUCTION AND I/O CONTROL								
Supervisor	32,988	40,000	40,000	33,000	27,750	30,667	41,000	33,000
Lead Production Controller	31,269	33,333	26,000	29,000	24,667	38,000	42,000	
Scheduler	25,130	24,000	31,000	26,666	20,833	24,900		
Control Clerk	20,330	22,667	24,000	12,500	18,333	21,543	23,150	15,000
DATA ENTRY								
Supervisor	24,005	22,000	22,412	24,000	21,167	35,875	31,250	24,617
Operator	17,431	17,618	18,795	14,420	13,900	18,110	19,250	19,256
OFFICE AUTOMATION								
Word Processing Supervisor	29,980	29,750	24,000	39,000	30,667	32,667	35,000	25,000
Word Processing Operator	19,347	14,500	20,550	15,400	18,750	20,750	24,000	21,000
Micro-User Services Specialist	27,783	22,000	36,500	22,000	26,500	28,362	37,000	22,000
DOCUMENTATION								
Specialist	28,916	22,500	23,000	23,500	33,833	31,825	41,000	26,000
Consultant	49,433	35,000	45,000		80,000	45,750	45,000	27,800
PC Evaluator	33,438	32,333		26,000	27,500	35,000	50,000	28,500

Note: Blanks indicate insufficient data.

SOURCE: Reprinted from DATAMATION, October 1, 1989, c 1989 by Cahners Publishing Company

TABLE 116

AVERAGE SALARIES OF DATA PROCESSING PERSONNEL BY POSITION & SELECTED GEOGRAPHIC REGIONS, 1989

POSITION	ALL	GEOGRAPHIC REGIONS						
		Boston	NYC AREA	Phila.	Wash./ Balt.	Atlanta	Denver	Houston
CORPORATE STAFF								
Vice President	\$77,014	\$70,000	\$90,000	\$112,500	\$87,500	\$75,000	\$40,000	\$60,000
Director of DP/MIS	56,204	50,286	65,464	69,333	68,125	56,000	56,667	75,200
Technical Services Manager	56,395	35,000	79,000	59,333	57,500	57,000		
Information Center/Data Center Manager	45,417	39,000	53,400	53,140	52,000	44,000	36,000	28,000
Director of Security	55,875		66,500	70,000	59,500			
SYSTEMS ANALYSIS								
Manager	50,666	43,500	57,500	58,000	54,500	40,000		65,000
Senior Systems Analyst	44,299	35,730	47,833	51,000	48,333	35,000		41,333
Lead Systems Analyst	41,118	37,399	44,250	39,900	52,500			
Systems Analyst	35,403	32,333	36,333	37,467	41,000			35,000
Junior Systems Analyst	30,316	27,000	30,250	34,000	42,000			
APPLICATIONS PROGRAMMING								
Manager	49,164	41,625	42,400	54,000	56,625	35,000	32,500	70,000
Lead Applications Programmer	41,764	39,575	39,857	43,333	49,400	25,000	32,500	53,000
Senior Applications Programmer	36,669	39,000	39,800	32,000	45,000	20,500	30,000	30,850
Applications Programmer	30,856	34,909	33,000	33,425	40,833	18,000	24,000	26,400
Intermediate Applications Programmer	28,562	35,000	32,333	38,000	36,500			23,000
Junior Applications Programmer	24,257	30,000	27,500	27,075	30,000			20,100
SYSTEMS ANALYSIS/PROGRAMMING								
Manager	50,547	48,500	54,750	46,500	55,000	43,750	44,000	56,000
Lead Systems Analyst/Programmer	42,552	42,333	47,620	44,000	50,000	36,000	36,850	42,000
Senior Systems Analyst/Programmer	38,070	38,000	44,458	38,833	45,000	38,333		37,100
Systems Analyst/Programmer	33,062	33,450	39,000	45,000	36,667	33,000		37,250
Intermed. Systems Analyst/Programmer	30,733	32,000	29,250	42,000	42,500	30,000	25,750	29,700
Junior Systems Analyst/Programmer	25,871	25,500	25,600	40,000	33,333	25,000	21,200	25,800
OPERATION SYSTEMS PROGRAMMING								
Manager	50,156	47,667	60,600	59,000	62,500	45,000	33,500	
Senior Systems Programmer	46,315	40,000	56,000	43,500	56,750	45,000	29,250	43,600
Intermediate Systems Programmer	38,488	33,500	45,000	37,500	45,333	40,000		39,400
Junior Systems Programmer	30,547	29,000	32,000	40,000	34,567	25,000	20,000	35,300
DATABASE ADMINISTRATION								
Manager	52,409			57,500	52,500	50,000		
Database Administrator	42,307		30,000	48,500	50,000	40,000		46,850
DATACOM/TELECOM/CONNECTIVITY								
Manager	54,350	5,000	66,500	66,500	56,250	44,000		
Analyst	43,242	41,500	35,000	51,000	56,500	40,000		
Network Engineer	41,211		40,000	45,000	53,250	38,000		
Network Administrator	33,175		32,000	40,000	43,333	30,000		
COMPUTER OPERATIONS								
Manager	36,578	40,000	48,200	47,000	41,714	39,333	28,000	39,400
Shift Supervisor	32,074	27,859	35,250	38,500	40,333	33,500		38,000
Lead Computer Operator	25,544	28,500	29,143	29,100	40,000	26,500	22,000	19,400
Computer Operator	20,716	21,400	22,500	29,500	29,750	21,500	17,267	20,033
Microcomputer/Workstation Manager	30,053	18,000	21,000	28,500	55,000		28,000	
PRODUCTION AND I/O CONTROL								
Supervisor	32,988	32,000	34,333	39,000	35,000			
Lead Production Controller	31,269		25,000	37,000	38,000			
Scheduler	25,130	24,000	20,000		27,500			
Control Clerk	20,330	14,000	20,000	29,700	30,000			22,000
DATA ENTRY								
Supervisor	24,005	21,000	27,833	21,333	45,500	25,667		
Operator	17,431	17,580	17,854	16,750	22,500	18,000	13,000	
OFFICE AUTOMATION								
Word Processing Supervisor	29,980	20,000	36,500	35,000	36,500		26,500	
Word Processing Operator	19,347	15,000	23,500	24,000	26,500		18,000	
Micro. User Services Specialist	27,783	27,500	24,333	29,000	35,900	18,000	23,500	
OTHER								
Specialist	28,916	40,000	45,000	41,000	35,000		25,000	
Consultant	49,433	80,000	55,500	45,000	45,000		41,000	
PC Evaluator	33,438	23,000	35,000	50,000	35,000		37,000	

Note: Blanks indicate insufficient data.

TABLE 116 (Continued)

AVERAGE SALARIES OF DATA PROCESSING PERSONNEL BY POSITION & SELECTED GEOGRAPHIC REGIONS, 1989

POSITION	GEOGRAPHIC REGIONS								
	Dallas	Chicago	Cleveland	Cincinnati	Detroit	St. Louis	San Francisco	Los Angeles	Minneapolis/St. Paul
CORPORATE STAFF									
Vice President	\$71,333	\$62,097	\$	\$	\$	\$31,000	\$76,857	\$53,000	\$68,500
Director of DP/MIS	54,857	55,750	41,002	42,000	43,000	42,000	48,700	63,722	54,000
Technical Services Manager	54,000	52,500		49,000	39,000		62,000	77,500	45,000
Information Center/Data Center Manager	48,833	54,167		34,500	50,000	45,000	67,500	50,916	45,200
Director of Security	42,000	35,000							
SYSTEMS ANALYSIS									
Manager	34,000	51,388	66,000	32,500	52,000	45,000	67,000	71,667	43,000
Senior Systems Analyst	34,400	66,500	44,018		47,000		45,520	46,857	38,000
Lead Systems Analyst	41,000	35,167			47,000		46,000	53,244	37,667
Systems Analyst	38,000	39,450	28,500	25,000	35,000		42,000	38,500	31,000
Junior Systems Analyst	17,000	30,000		27,000				35,000	
APPLICATIONS PROGRAMMING									
Manager		55,000		45,00	52,000	43,000	71,667	90,000	55,000
Lead Applications Programmer	40,000	37,500		36,000	52,000	37,500	50,250	75,000	
Senior Applications Programmer	38,500	36,333	25,000	36,000	50,000		43,000	44,333	35,500
Applications Programmer	28,500	38,000		24,000	42,000	32,000	35,500	42,500	26,667
Intermediate Applications Programmer		27,500		20,500				35,000	17,000
Junior Applications Programmer	21,000	26,667		18,000	35,000	27,500	26,000	23,000	23,000
SYSTEMS ANALYSIS/PROGRAMMING									
Manager	47,333	45,833		31,000	41,000		65,000	70,500	49,500
Lead Systems Analyst/Programmer	36,200	37,500			41,000		38,116	59,000	
Senior Systems Analyst/Programmer	36,500	38,667		30,000	31,000		41,200	60,000	33,000
Systems Analyst/Programmer	31,667	33,929		27,333	26,000		31,000	42,500	29,500
Intermed. Systems Analyst/Programmer	28,000	28,000						45,000	
Junior Systems Analyst/Programmer	22,000	22,000						35,000	
OPERATION SYSTEMS PROGRAMMING									
Manager	47,000	46,000		35,000			75,000	68,500	32,000
Senior Systems Programmer	39,333	37,900			57,000		56,500	62,500	
Intermediate Systems Programmer	37,667	39,250	15,600	27,500				55,000	
Junior Systems Programmer	28,000							50,000	
DATABASE ADMINISTRATION									
Manager							70,000	95,000	
Database Administrator	37,000	45,000					44,333	65,500	34,000
DATACOM/TELECOM/CONNECTIVITY									
Manager	67,500	25,000					64,750	90,000	36,667
Analyst	28,500	35,300	34,000				52,500	75,000	37,000
Network Engineer	35,000						49,500	60,000	
Network Administrator	32,500						41,500	50,000	24,000
COMPUTER OPERATIONS									
Manager	32,500	41,400	31,000	30,000			44,700	45,125	35,750
Shift Supervisor	28,333	32,725					30,250	38,900	26,000
Lead Computer Operator	26,189	23,167				25,000	32,902	28,333	24,400
Computer Operator	19,667	21,129	14,950	20,000	18,000	18,550	25,667	20,512	17,850
Microcomputer/Workstation Manager	22,000							35,000	
PRODUCTION AND VO CONTROL									
Supervisor	41,000						40,000	34,000	30,000
Lead Production Controller	27,500							40,000	
Scheduler	26,000		27,000					35,000	28,000
Control Clerk		20,000	18,000					25,000	
DATA ENTRY									
Supervisor	33,000	20,000	10,000	17,000	28,000	23,000	22,000	23,471	26,734
Operator	20,467	18,425	16,240	17,800	18,000	16,000	23,400	16,700	16,510
OFFICE AUTOMATION									
Word Processing Supervisor	30,500						32,000	30,000	
Word Processing Operator	20,000	18,400		18,500			21,250	22,000	15,000
Micro. User Services Specialist	22,000						28,000	30,000	24,333
OTHER									
Specialist	19,000						22,000	45,000	28,000
Consultant	41,000	65,000					45,000	60,000	
PC Evaluator	37,000						40,000	60,000	

Note: Blanks indicate insufficient data.

SOURCE: Hay Group, Inc., *Hay Access Compensation Report, EDP Compensation Comparison, 1989*

TABLE 117

AVERAGE BASE SALARY AND TOTAL COMPENSATION OF EDP PROFESSIONALS BY CONTENT LEVEL (RESPONSIBILITY) AND REGION, 1989

REGION	JOB CONTENT LEVEL					
	ENTRY LEVEL DEGREED PROFESSIONALS ⁽¹⁾		SENIOR INDIVIDUAL CONTRIBUTOR LEVEL ⁽²⁾		SECOND LEVEL OF MGMT./ SENIOR MGMT. LEVEL ⁽³⁾	
	Salary	Compensation	Salary	Compensation	Salary	Compensation
New England	\$27,800	\$28,100	\$44,200	\$45,800	\$77,000	\$81,300
Metropolitan New York	27,000	27,300	48,800	50,000	92,400	95,500
Philadelphia/D.C.	27,500	27,900	46,900	48,700	89,700	112,700
Ohio/Western Penna.	27,600	27,800	44,700	45,600	78,800	81,100
Southeast	26,500	26,800	43,800	44,800	78,500	82,200
Midwest	26,200	26,400	42,500	43,100	76,900	82,600
Metropolitan Chicago	28,600	29,000	47,200	48,600	84,300	87,900
West/Northwest	29,500	29,500	45,400	46,600	77,300	80,800
Southwest	28,100	28,200	47,900	48,600	87,400	89,300

TABLE 118

AVERAGE BASE SALARY AND TOTAL COMPENSATION OF EDP PROFESSIONALS BY CONTENT LEVEL (RESPONSIBILITY) AND INDUSTRY, 1989

INDUSTRY	JOB CONTENT LEVEL					
	ENTRY LEVEL DEGREED PROFESSIONALS ⁽¹⁾		SENIOR INDIVIDUAL CONTRIBUTOR LEVEL ⁽²⁾		SECOND LEVEL OF MGMT./ SENIOR MGMT. LEVEL ⁽³⁾	
	Salary	Compensation	Salary	Compensation	Salary	Compensation
Manufacturing	\$27,900	\$28,100	\$44,900	\$45,300	\$78,900	\$93,700
Nonmanufacturing	26,500	26,900	47,100	48,900	88,300	95,800
Utilities/Transportation	29,800	29,900	46,400	47,000	79,700	81,300
Petroleum/Gas	30,800	31,200	50,500	53,400	89,900	97,900
Chemical/Pharmaceutical	27,100	27,200	46,400	47,600	85,000	88,500
Blue Cross/Blue Shield Plans	24,000	24,100	40,500	40,800	73,400	74,300
Service/Nonprofit	27,900	28,100	47,000	47,600	85,200	86,600
Diversified Financial	23,300	23,300	44,100	44,100	90,400	106,900
Insurance	25,600	26,000	41,500	42,500	74,200	77,500
Banks	24,100	24,500	41,100	42,000	75,100	77,100

⁽¹⁾ Includes Journeyman Programmer, Associate Programmer-Analyst

⁽²⁾ Includes Senior Systems Analyst, Senior Systems Programmer, Senior Data Base Analyst.

⁽³⁾ Manager of Systems, Second Level, Data Center Manager.

TABLE 119

MEAN AND MEDIAN ANNUAL SALARIES OF ACCOUNTING/FINANCIAL PERSONNEL BY TYPE OF ORGANIZATION AND POSITION, SEPTEMBER 1987

TYPE OF ORGANIZATION	Non-Supervisory Accountants & Auditors		Junior Accountants & Auditors		Senior Accountants & Auditors		Accounting Auditing Managers		Supervisory Accountants & Auditors	
	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median
All Manufacturing / Extractive Organizations	\$26,775	\$25,729	\$23,477	\$24,120	\$31,576	\$31,296	\$43,070	\$42,258	\$34,968	\$34,930
All Non-Manufacturing Organizations (Excluding Public Acct.)*	27,592	26,999	21,302	22,572	31,848	31,356	40,642	39,900	32,290	32,074
Accounting Firms (Public)	22,572	22,200	19,238	19,500	26,039	25,050	40,108	40,000	32,488	31,000
Aerospace / Aircraft Product Mfg.	30,010	29,245			33,929	33,600	55,260	55,000	42,235	42,966
Banks and Other Financial Organizations	25,073	25,000	21,759	21,500	31,898	32,500	50,547	52,125	31,415	31,460
Chemical / Pharmaceutical / Plastic / Rubber Product Mfg.	26,114	26,000			28,991	30,000	39,707	40,000	34,962	36,908
Electrical / Electronics Product Mfg.	27,059	25,578	24,557	25,704	32,303	31,558	42,670	43,000	31,965	32,864
Fabricated Metal Product Mfg.	22,739	22,796					38,770	37,900	34,609	33,750
Food/Beverage/Tobacco Product Mfg.	23,919	21,659	18,842	20,055	26,187	23,050	44,047	44,400	29,819	28,500
Governmental Organizations	28,222	26,957	24,397	24,544	31,546	30,950	36,338	35,235	28,969	30,376
Health Services (Hospitals / Nursing Homes / etc.)	24,075	23,268			28,419	29,497	36,880	40,032	27,116	24,939
Insurance Firms	28,336	28,500	21,752	21,950	34,687	35,192	46,787	45,800	37,207	37,892
Merchandising Firms (Retail & Wholesale)	24,260	24,500	23,026	22,500	28,104	27,742	36,925	36,125	31,411	31,400
Petroleum / Natural Gas - Extracting / Refining	26,449	26,000	22,875	21,500	35,809	34,200	49,749	45,000	36,522	36,000
Utilities	29,263	30,720	26,087	25,920	34,286	36,978	47,628	48,408	36,503	37,800

* Firms & banks & other financial organizations.

SOURCE: Abbott, Langer and Associates, *Compensation in the Accounting/Financial Field*, 1989

TABLE 120

MEAN AND MEDIAN ANNUAL SALARIES OF ACCOUNTING/FINANCIAL PERSONNEL BY METROPOLITAN AREA AND POSITION,
SEPTEMBER 1987

METROPOLITAN AREA	Non-Supervisory Accountants & Auditors		Junior Accountants & Auditors		Senior Accountants & Auditors		Accounting Auditing Managers		Supervisory Accountants & Auditors	
	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median
Atlanta (GA) & Vicinity	\$25,532	\$27,121	\$26,152	\$26,180	\$	\$	\$	\$	\$	\$
Boston & Vicinity	29,284	28,500	24,865	25,607	34,942	34,900	43,936	45,800		
Chicago & Vicinity	28,152	27,360	25,199	26,121	30,462	30,500	41,289	38,700	36,790	37,151
Cincinnati (OH/KY/IN) & Vicinity	25,482	25,752	21,606	22,728	28,533	29,432				
Cleveland (OH) & Vicinity	28,013	28,200	25,049	25,053	30,563	28,970	45,833	45,648	28,962	25,512
Dallas/Ft. Worth & Vicinity	24,660	26,120	25,251	25,487	28,226	30,700				
Denver/Colorado Springs & Vicinity	25,344	24,000	22,010	21,500	27,535	25,514	48,594	45,000	32,510	31,900
Detroit (MI) & Vicinity	27,851	27,600	24,692	25,632	32,857	32,350	41,119	42,550		
Houston (TX) & Vicinity	26,980	26,602	26,414	25,565	31,439	31,439				
Indianapolis (IN) & Vicinity	25,956	26,222	23,426	25,166	32,620	29,129	43,773	45,108	34,718	34,500
Kansas City (MO/KS) & Vicinity	23,622	23,010			28,426	28,080			36,772	32,526
Los Angeles/Long Beach (CA) & Vicinity	25,947	26,725	24,704	25,286	29,422	30,420	39,860	37,500		
Miami (FL) & Vicinity	28,355	27,699								
Milwaukee (WI) & Vicinity	21,262	21,534	24,996	24,996	29,642	28,769			33,040	32,500
Minneapolis/St. Paul (MN/WI) & Vicinity	22,662	21,769	23,256	24,403	30,247	27,853			23,835	23,800
New York City & Vicinity	29,335	28,847	24,145	23,025	34,132	33,856	55,196	52,700	38,785	39,000
New Orleans (LA) & Vicinity					25,857	27,179				
Philadelphia & Vicinity	25,669	25,590	23,322	24,823	32,447	31,000	39,485	40,878		
Phoenix (AZ) & Vicinity	24,407	24,798	15,978	15,600	30,481	30,120			27,175	27,300
Pittsburgh (PA) & Vicinity	25,257	25,257			28,854	28,854				
St. Louis (MO/IL) & Vicinity	24,937	25,000	22,194	21,537	29,546	28,790	46,031	45,037	33,768	33,600
San Francisco/Oakland (CA) & Vicinity	27,895	27,497	25,170	25,702	31,821	31,821				
San Jose (CA) & Vicinity	32,645	33,612	26,622	26,028			56,394	55,416	42,047	44,616
Seattle/Everett (WA) & Vicinity	23,238	22,870	21,920	22,062	29,190	26,987			26,541	26,076
Tampa/St. Petersburg (FL) & Vicinity	27,292	28,530			31,628	30,840				
Washington, D.C. & Vicinity	26,801	26,970	23,930	24,383	29,889	29,616	43,533	42,585	36,305	36,392
All Areas	26,148	26,222	22,667	23,812	30,056	29,400	42,136	41,450	33,114	32,500

TABLE 121

MEAN AND MEDIAN ANNUAL SALARIES OF ACCOUNTING/FINANCIAL PERSONNEL BY LEVEL OF EDUCATION AND POSITION,
SEPTEMBER 1987

LEVEL OF EDUCATION	Non-Supervisory Accountants & Auditors		Junior Accountants & Auditors		Senior Accountants & Auditors		Accounting Auditing Managers		Supervisory Accountants & Auditors	
	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median
Less than BA/BS/BBA	\$23,327	\$23,400	\$20,247	\$20,600	\$27,145	\$26,000	\$36,409	\$36,920	\$29,635	\$29,550
BA/BS/BBA Degree	26,276	26,360	23,862	24,403	30,070	29,400	42,433	41,550	34,454	34,500
MA/MS Degree	27,350	27,092			29,697	30,100	42,925	41,100	32,173	30,059
MBA Degree	29,323	28,300			35,159	35,800	46,937	46,599	36,420	36,450

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics, *"Weekly Earnings of Wage & Salary Workers: Second Quarter 1989,"* USDL 89-367, July 31, 1989

TABLE 122

NUMBER AND MEDIAN WEEKLY EARNINGS BY SEX FOR SELECTED OCCUPATIONS, FIRST QUARTER 1989

OCCUPATION	TOTAL		MEN		WOMEN	
	Number of Workers	Median Weekly Earnings	Number of Workers	Median Weekly Earnings	Number of Workers	Median Weekly Earnings
MANAGERIAL & PROFESSIONAL	22,558,000	\$581	12,398,000	\$685	10,160,000	\$490
Executive, Adminis. & Managerial	11,284,000	582	6,612,000	689	4,672,000	466
Professional	11,274,000	580	5,786,000	682	5,488,000	505
TECHNICAL, SALES & ADMINIS. SUPPORT	25,447,000	358	9,378,000	485	16,069,000	314
Technicians & Related Support	3,076,000	478	1,675,000	548	1,400,000	408
Sales Occupations	8,054,000	389	4,626,000	496	3,428,000	275
Adminis. Support, Including Clerical	14,318,000	327	3,077,000	427	11,241,000	313

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics, *Unpublished information*.

TABLE 123

**MEDIAN WEEKLY EARNINGS OF FULL-TIME WAGE AND SALARY WORKERS BY SEX IN SELECTED
OCCUPATIONS EMPLOYING 50,000 OR MORE, 1988**
(numbers in thousands)

OCCUPATION	BOTH SEXES		MEN		WOMEN		Women's Earnings As a % Of Men's
	No. of Workers	Median Weekly Earnings	No. of Workers	Median Weekly Earnings	No. of Workers	Median Weekly Earnings	
MANAGEMENT & PROFESSIONAL SPECIALTY OCCUPATIONS	21,770	\$552	11,968	\$666	9,802	\$465	69.8
Executive, administrative, and managerial occupations	10,725	547	6,238	682	4,487	430	63.0
Administrators and officials, public administration	436	550	257	617	179	476	77.1
Financial Managers	472	630	272	788	200	487	61.8
Personnel & Labor relations Managers	112	666	59	785	53	563	71.7
Managers, marketing, advertising & public relations	453	702	313	814	140	503	61.8
Administrators, education & related fields	500	671	282	757	218	499	65.9
Managers, medicine & Health	144	587	51	743	93	535	72.0
Management related occupations	3,204	501	1,540	610	1,664	426	69.8
Accountants & Auditors	1,114	501	538	613	576	435	71.0
Management analysts	90	672	57	818	33		
Personnel training, and labor relations specialists	364	507	151	613	213	447	72.9
PROFESSIONAL SPECIALTY OCCUPATIONS	11,045	555	5,730	651	5,315	485	74.5
Engineers, architects, & Surveyors	1,833	717	1,696	727	137	624	85.8
Architects	97	616	80	634	16		
Engineers	1,719	723	1,599	734	120	639	87.1
Aerospace engineers	110	805	104	820	6		
Chemical engineers	58	781	50	785	8		
Civil engineers	192	717	182	724	10		
Electrical & electronic engineers	557	741	520	749	37		
Industrial engineers	224	664	195	676	29		
Mechanical engineers	284	709	273	717	11		
Engineers, N.E.C.	219	715	201	734	18		
Mathematical & computer scientists	675	667	448	733	227	575	78.4
Computer systems analysts & scientists	421	674	295	730	126	594	81.4
Operations & systems researchers & analysts	208	675	130	740	78	578	78.1
Natural scientists	356	635	275	677	81	540	79.8
Chemists, except biochemists	123	666	97	68	26		
Biological & life scientists	67	554	40		27		
Health diagnosing occupations	302	710	227	807	75	553	68.5
Physicians	254	716	190	815	64	572	70.2
Health assessment & treating occupations	1,509	518	268	591	1,241	511	86.5
Registered nurses	1,075	516	79	561	996	515	
Pharmacists	109	718	74	720	35		
Therapists	228	497	73	517	155	489	94.6
Inhalation therapists	57	473	29		28		
Physical therapists	57	528	19	38			
Speech therapists	52	522	6	46			

TABLE 123 (Continued)

**MEDIAN WEEKLY EARNINGS OF FULL-TIME WAGE AND SALARY WORKERS BY SEX IN SELECTED
OCCUPATIONS EMPLOYING 50,000 OR MORE, 1988**
(numbers in thousands)

OCCUPATION	BOTH SEXES		MEN		WOMEN		Women's Earnings As a % Of Men's
	No. of Workers	Median Weekly Earnings	No. of Workers	Median Weekly Earnings	No. of Workers	Median Weekly Earnings	
Teachers, college and university	454	\$676	309	\$752	145	\$555	73.8
Teachers, except college & university	3,044	487	904	560	2,140	463	82.7
Teachers, prekindergarten & kindergarten	253	321	7		246	320	
Teachers, elementary school	1,264	481	196	522	1,067	476	91.2
Teachers, secondary school	1,064	521	543	580	521	491	84.7
Teachers, special education	222	489	35		188	485	
Counselors, educational & voc.	172	562	66	599	106	522	87.1
Librarians, archivists, and curators	164	474	30		134	463	
Librarians	146	476	22		124	465	
Social scientists & urban planners	237	596	136	676	101	531	78.6
Economists	96	673	63	719	32		
Psychologists	118	518	58	560	60	498	88.9
Social, recreation, & religious workers	851	405	476	414	375	395	95.4
Social workers	458	423	667	434	291	420	96.8
Lawyers & judges	396	909	296	930	100	765	82.3
Lawyers	366	914	272	930	94	774	83.2
TECHNICAL, SALES & ADMINISTRATIVE SUPPORT OCCUPATIONS	24,931	347	9,267	472	15,664	305	64.6
Technicians & related support occupations	2,960	448	1,647	510	1,313	384	75.3
Health technologists & technicians	909	367	191	413	718	355	86.0
Clinical laboratory technologists & technicians	216	417	57	484	160	399	82.4
Radiologic technicians	107	422	27		81	417	
Licensed practical nurses	299	366	17		282	336	
Engineering & related technologists & technicians	854	479	695	495	159	402	81.2
Electrical & electronic technicians	303	496	256	509	47		
Drafting occupations	268	463	223	479	42		
Surveying & mapping technicians	73	419	63	426	10		
Science technicians	197	415	139	434	58	377	86.9
Chemical technicians	82	469	59	484	23		
Technicians, except health, engineering & science	1,000	529	622	605	378	451	74.5
Computer programmers	532	588	364	623	168	497	79.8
ADMINISTRATIVE SUPPORT OCCUPATIONS, INCLUDING CLERICAL	14,230	318	3,101	418	11,129	305	73.0
Computer equipment operators	759	342	262	415	497	311	74.9
Computer operators	754	342	260	414	494	312	75.4

SALARIES OF ENGINEERS

Salaries of engineers in the United States increased very little between 1988 and 1989, according to the 23rd survey by the **Engineering Manpower Commission** of the **American Association of Engineering Societies, Inc.** The median salary for all engineers at all levels of experience increased by only 0.8% between February 1, 1988 and February 1, 1989, compared to rises of 2.3% in 1987-88, 3.1% in 1986-87 and 6.8% in 1985-86. Engineers employed in industry, regardless of sector, earned more than their colleagues in federal or state government. However, engineers employed in research and development labs reported the highest median salary - \$54,700. The lowest salary was reported by engineers employed by state governments - \$37,100, (Table 124). This is true throughout their careers as is shown in Table 125.

Within the industrial sector, petroleum led all others with the highest overall level of engineering compensation. Regardless of what point in their career they are, engineers employed in the petroleum industry earned the highest salaries. As Table 126 shows, salaries of engineers in industry ranged from a high of \$79,950 for those with 33+ years of experience working in the petroleum industry to a low of \$28,900 for those just beginning their careers in the "other durable goods manufacturing" industry.

Supervisory status and academic attainment also exert significant influences on the compensation of engineers. Supervisory engineers consistently earn more than non-supervisory engineers, with salary differentials ranging from a high of 57.4% in the petroleum industry to a low of 31.6% in the communications services sector. The highest median salary was for supervisory engineers employed in the petroleum industry (\$76,500), while the lowest medians were reported by non-supervisory engineers employed in state governments (Table 127). The higher the degree, the higher the salary. Overall, bachelor's degree engineers reported a median salary of \$42,700, compared to \$51,200 at the master's level and \$59,600 for Ph.D.s (Table 128). Chart 1 shows median salaries by degree level for engineers employed in industry in 1989.

By geographic region, the Pacific area has replaced the Mountain region as the highest-paying part of the country. The median annual salary for engineers working in the Pacific region is \$53,600, compared to the West North Central region where engineers' median salary is only \$43,300 (Table 130). Engineers receive the highest median salaries in the Pacific region from the beginning to the end of their careers (Table 129).

The twenty-third national compensation survey by the **National Society of Professional Engineers - PROFESSIONAL INCOME AND SALARY SURVEY 1989**, carried out by **Abbott, Langer & Associates**, found that total income of NSPE members reached \$53,000, up 4.7% over 1988. However, during this same period, the Consumer Price Index also rose by 4.7%

By level of education, median income of engineers with a B.S. degree in engineering rose 4.1% over the proceeding year to reach \$50,000, while those with a M.S. in engineering 4.9% to \$56,200, and those with a doctorate in engineering reached \$68,000 (Table 131). Regardless of degree level, income of engineers increases with years of experience through the first 25 years of working, then levels off and drops somewhat (Table 133).

By branch of engineering, petroleum engineering had the highest median income - \$65,600, although nuclear engineers registered the highest percentage increase (11.0%) to \$58,664. Lowest median income was reported by civil engineers who were engaged primarily in surveying, at \$46,800 (Table 137). Table 132 shows median income by branch of engineering and length of experience. Petroleum engineers with 25-29 years of experience reported the highest income - \$90,728.

Geographically, engineers employed in the Northeastern states reported the highest median income - \$56,195, while those employed in the Great Plains States reported the lowest - \$48,000 (Table 134). By selected metropolitan areas, median income of engineers ranged from a high of \$69,600 in New York City, including all five boroughs, to a low of \$45,653 in Columbus, Ohio (Table 135).

Income of engineers varies by the type of employer and by what they do. Highest median income by type or service of employer was reported by those engineers in private practice engaged in chemical work - \$66,000, while the lowest income was reported by those engineers working in state government - \$45,000 (Table 136). By job function, engineers engaged in executive/administrative activities registered the highest median income - \$65,000, while those engaged in design earned the least - \$46,000 (Table

138). Table 139 shows median income by job function and length of experience. Generally, the more experience, the higher the salary regardless of design function. Engineers working in an executive/administrative position with at least 30 years of experience reported the highest income - \$73,631.

Engineering compensation increased an average 2.8% in base salary and 3.0% in total compensation from May 1988 to May 1989, according to 363 organizations who responded to the eighth annual study of cash compensation for selected positions in the engineering function and reported in **HAY ACCESS COMPENSATION REPORT - 1989 ENGINEERING POSITIONS** by The Hay Group. The 1989 database included over 40,000 incumbents. Working in field installation and service was rewarding for engineering managers, who reported the highest average annual base salary - \$92,200, but entry-level engineers employed in this activity earned the least - \$30,700 (Table 140). By discipline, salaries for entry-level engineers ranged from a high of \$36,400 for hardware/systems engineers to a low of \$32,800 for industrial engineers (Table 141).

By geographic region, entry-level engineers earned the highest base salaries in the West, excluding California - \$35,100 - while top level engineers involved in management reported the highest salaries in the Dallas/Houston Area - \$110,200 - as shown in Table 142. Engineers working in the chemical/petroleum industry earned the highest salaries regardless of level of responsibility (Table 143).

The **1989 SURVEY OF HIGH TECHNOLOGY COMPENSATION AND BENEFITS** is the sixth survey of income and benefits paid employees in the high technology industry by The Hay Group. Average salaries ranged from a high of \$150,000 paid to the chairman, president and chief executive officer in high technology companies to a low of \$15,500 for an entry-level drafter (Table 144).

Median salaries for chemical engineers at all degree levels were relatively flat for the second year in a row, according to **SALARIES 1989**, an analysis of the 1989 survey of salaries and employment prepared by the American Chemical Society. The overall median salary for Ph.D. industrial chemical engineers was \$64,740 compared with \$62,900 in 1988, master's degree chemical engineers reported a median salary of \$53,000 compared with \$50,900 in 1988, and bachelor's degree chemical engineers' median salary was \$47,700 in both 1988 and 1989. However, the median salaries of B.S. chemical engineers with 0-1 and 2-4 years since the BS are 6% higher than in 1988. Salaries of chemical engineers by degree level and years since B.S. are shown in Table 145.

What a chemical engineer does has an effect on salary. Those chemical engineers working in management, regardless of degree level, report the highest salaries (Table 146). Chemical engineers with supervisory responsibilities report higher salaries than do those with non-supervisory status, regardless of degree level as is shown in Table 147.

Salaries also differed by geographic region. The median salary of a B.S. chemical engineer ranged from a high of \$52,000 in the Mountain region to a low of \$42,600 in the East South Central region, while Ph.D. chemical engineers earned the most in the New England area - \$75,000 - and the least in the West North Central - \$55,000 (Table 148).

Average annual income for industrial engineers on January 1, 1989 was \$48,716, according to the 11th survey on **COMPENSATION OF INDUSTRIAL ENGINEERS**, conducted by Abbott, Langer & Associates for the American Institute of Industrial Engineers. Median income by degree level ranged from \$60,000 for Ph.D. engineers to \$38,600 for those with a B.S. in engineering (Table 149).

Median income of industrial engineers rose regularly by length of experience, ranging from \$30,788 for those with under one year of experience to \$58,000 for those with 30 or more years of experience (Table 150). As expected, median income was highest for industrial engineers who were corporate officers or in general management - \$71,016 (Table 151).

Median income varied considerably from one type of employer to another. Median incomes in non-manufacturing organizations were considerably higher (\$46,456) than in manufacturing firms (\$41,982). The lowest median income of industrial engineers was found in firms manufacturing furniture and wood products, textile mill products, or fabricated metal products (all in the \$37,050 to \$38,500 range). Industrial engineers who were employed by petroleum & coal product producers reported the highest median income - \$56,100 (Table 152).

Median income was highest for industrial engineers employed in New York City & Vicinity - \$59,925 - and lowest in Seattle/Everett & Vicinity - \$40,987 (Table 153). By primary activity or specialty, the highest median income went to those engaged in "organization, administration - IE department, plant" - \$51,650. The lowest median income was reported by those in work measurement, standards and performance measures - \$37,000 - Table 154).

In another survey by Abbott, Langer & Associates on COMPENSATION IN MANUFACTURING - 9th edition - 213 organizations provided information on engineers employed in manufacturing. Naturally, length of experience played a part in determining income. Median salary ranged from \$30,000 for those with less than three years of experience to \$44,400 for those with 20-24 years of experience (Table 155). By major branch of engineering, chemical engineers working in manufacturing reported the highest median salary - \$40,850, while aeronautical/aerospace engineers reported the lowest - \$34,840 (Table 156).

By type of product manufactured, engineers employed by firms producing furniture and wood products reported the lowest income - \$29,560 - while those working for firms producing food and beverage products reported the highest salary - \$44,490 - (Table 157). By level of education, median salaries ranged from a low of \$34,507 for those engineers with only an associate degree to \$45,100 for those with a graduate degree (Table 158).

Geographic area had an effect on salaries for engineers working in manufacturing. The highest median salary was reported by those working in California (\$44,902) while the lowest was reported by those working in Minnesota - \$28,000 (Table 159). By selected metropolitan area, median salaries ranged from a high of \$50,000 for engineers working in New York City & vicinity to a low of \$29,965 for those working in Salt Lake City/Ogden Utah area (Table 160). Overall, engineers working in the Pacific states reported the highest median salaries - \$40,539, while those working in the Southwestern states reported the lowest - \$33,120 (Table 161).

Those engineers with background in methods and systems reported the highest median salaries - \$43,362, while those with training in materials engineering reported the lowest - \$30,004 (Table 163). Salaries and total compensation for selected managerial personnel employed in manufacturing are shown in Table 162.

The average income of members of the Institute of Electrical and Electronics Engineers, Inc. (IEEE) is \$54,700, according to the ninth survey of the IEEE U.S. MEMBERSHIP SALARY AND FRINGE BENEFIT SURVEY: 1989. For those who are working full-time in their primary area of technical competence, the average is slightly higher - \$56,000. By highest degree earned, those with a Ph.D. reported the highest median income - \$62,400, while those with a B.S. degree reported the lowest - \$45,000 (Table 164). According to the survey, income generally rises with age. As shown in Table 165 median income for IEEE members age 20-24 was \$29,000 and increased steadily to age 50-54 when it reached \$65,000. At that time, it leveled off, and started dropping.

Women continue to earn less than men, as reflected in other salary reports. As shown in Table 166, the salary disparity increases with years of experience. At the early stages of their careers, women received nearly comparable salaries with their male colleagues. However, by the 10-14 years of experience level, the salary differential is \$9,000 - 17% less than men. Median income by level of professional responsibility for IEEE engineers is shown in Table 167.

Salaries of IEEE engineers by type of industry or service ranged from a high of \$64,000 for those employed in the electric machinery industry to a low of \$41,700 for those employed in the transportation equipment & service industry and in the automotive product industry (Table 168). Table 169 presents median income by primary area of technical competence. Income ranges from a high of \$71,500 for those with technical competence in ultrasonics, ferroelectric & frequency control to a low of \$43,400 for those IEEE members whose primary area of technical competence is in broadcast technology.

By selected metropolitan area, median income ranged from a high of \$60,000 for engineers in the Poughkeepsie, NY area, followed by those in San Francisco at \$59,000 to a low of \$40,000 in New London, CT and \$40,448 in the Jacksonville, FL area (Table 170).

SOURCE: Engineering Manpower Commission of American Association of Engineering Societies, *Professional Income of Engineers, 1989*.

TABLE 124

**MEDIAN AND MEAN SALARIES OF ENGINEERS BY
TYPE OF EMPLOYMENT GROUP, 1989**

EMPLOYMENT GROUP	MEDIAN	MEAN
INDUSTRIAL SECTOR		
Aerospace	\$42,800	\$45,900
Automotive	40,700	42,250
Chemicals, Drugs & Plastics	51,400	53,800
Computers	44,500	47,550
Construction	48,950	49,700
Consulting	49,000	50,050
Electrical/Gas Utilities	48,400	50,600
Electrical Machinery	42,400	45,550
Electronic Equipment	43,400	45,900
Engineering Services	48,950	50,300
Machinery (non-elec.)	40,600	42,550
Fabricated Metal Prod.	41,700	44,200
Petroleum	53,450	60,200
Precision Instruments	41,600	44,550
Other Durable Goods Manufacturing	43,750	45,600
Other Nondurable Goods Manufacturing	50,500	53,250
NON-INDUSTRIAL SECTOR		
Communication Services	44,600	47,400
Federal Government	40,400	42,850
State Government	37,100	38,600
Local Government	42,850	44,700
Research & Development Labs	54,700	56,900

SOURCE: Engineering Manpower Commission of American Association of Engineering Societies, *Professional Income of Engineers*, 1989

TABLE 125

NUMBER OF MEDIAN ANNUAL SALARIES OF ENGINEERS BY TYPE OF EMPLOYMENT GROUP
AND SELECTED YEARS SINCE BACCALAUREATE, 1989

Employment Group	YEARS SINCE BACCALAUREATE									
	0	1	5	7	9-11	15-17	18-20	21-23	27-29	33 +
All Industries	(3,076) \$30,450	(3,515) \$31,950	(4,529) \$37,950	(4,649) \$40,950	(11,423) \$45,250	(8,899) \$52,200	(8,522) \$54,600	(7,161) \$56,250	(5,975) \$57,700	(8,772) \$57,650
All Mfg. Industries	(1,917) 30,350	(2,166) 31,700	(2,568) 37,300	(2,425) 40,050	(5,670) 43,950	(4,226) 50,150	(4,246) 52,300	(3,629) 53,800	(3,151) 55,300	(4,870) 55,200
All Non-Mfg. Industries	(1,028) 31,350	(1,213) 32,900	(1,886) 39,350	(2,235) 42,600	(5,900) 47,300	(4,869) 55,100	(4,379) 57,900	(3,596) 59,850	(2,819) 61,750	(3,787) 61,900
Federal Government	(131) 26,500	(149) 29,050	(101) 39,750	(69) 43,450	(143) 46,500	(124) 48,100	(162) 48,250	(118) 48,250	(147) 48,250	(129) 48,250
State Government	(115) 26,250	(177) 27,000	(275) 30,050	(214) 31,650	(617) 34,100	(489) 38,900	(473) 41,050	(440) 42,900	(536) 45,150	(959) 43,100
Local Government	(2) —	(8) —	(11) 34,900	(8) 36,850	(22) 39,850	(14) 45,600	(24) 48,050	(20) 50,050	(22) 52,000	(32) 47,600
Communications Services	(33) 29,850	(27) 31,350	(55) 37,600	(45) 40,750	(158) 45,150	(79) 51,850	(81) 53,950	(44) 55,350	(25) 56,550	(104) 56,850
Consulting & Engineering Services	(348) 29,700	(364) 31,150	(583) 37,150	(675) 40,150	(1,820) 44,550	(1,953) 51,800	(1,702) 54,400	(1,454) 56,200	(1,050) 58,050	(1,515) 58,250
Consulting	(197) 29,250	(192) 30,650	(268) 36,950	(364) 40,250	(983) 45,100	(1,151) 52,950	(936) 55,500	(729) 57,250	(443) 58,800	(662) 59,200
Engineering Services	(245) 30,300	(274) 31,700	(419) 37,600	(530) 40,300	(1,371) 44,700	(1,499) 51,600	(1,324) 54,050	(1,216) 55,750	(882) 57,450	(1,206) 57,600
Research Laboratories	(528) 34,200	(692) 35,950	(929) 43,100	(1,250) 46,750	(3,353) 52,000	(2,224) 60,650	(2,070) 63,650	(1,878) 65,750	(1,707) 67,600	(2,245) 67,450

NOTE: Blanks indicate too few respondents to compute median salaries.

TABLE 126

NUMBER AND MEDIAN ANNUAL SALARIES OF ENGINEERS BY TYPE OF INDUSTRY AND SELECTED YEARS SINCE BACCALAUREATE, 1989

TYPE OF INDUSTRY	YEARS SINCE BACCALAUREATE									
	0	1	5	7	9-11	15-17	18-20	21-23	27-29	33 +
Aerospace	(557) \$30,050	(664) \$31,900	(999) \$35,950	(793) \$38,100	(1,528) \$41,500	(896) \$48,400	(977) \$51,650	(1,039) \$54,550	(1,048) \$58,450	(2,428) \$56,400
Chemicals, Drugs & Plastics	(662) 31,700	(577) 33,500	(480) 40,700	(690) 44,200	(1,394) 49,100	(1,139) 57,050	(1,102) 59,900	(1,062) 62,100	(719) 64,750	(982) 66,000
Construction	(129) 28,950	(132) 30,450	(139) 36,850	(278) 40,050	(680) 44,700	(775) 52,200	(655) 54,700	(553) 56,300	(311) 57,400	(388) 56,650
Elec., Machinery, / Electronics / Computers	(841) 30,450	(894) 31,750	(1,441) 37,050	(1,155) 39,650	(2,499) 43,350	(1,487) 49,450	(1,735) 51,650	(1,502) 53,250	(1,698) 55,000	(2,916) 55,550
Computers	(72) 30,550	(86) 32,150	(149) 38,650	(138) 41,850	(335) 46,250	(198) 52,800	(165) 54,850	(134) 56,150	(82) 57,350	(77) 57,600
Electronic Equipment	(805) 30,450	(832) 31,800	(1,344) 37,100	(1,077) 39,750	(2,324) 43,500	(1,353) 49,600	(1,611) 51,800	(1,389) 53,400	(1,629) 55,100	(2,837) 55,600
Electrical Machinery	(90) 29,900	(85) 31,500	(126) 37,550	(127) 40,150	(281) 43,500	(207) 47,950	(170) 49,200	(128) 50,000	(96) 50,700	(116) 50,850
Precision Instruments	(6) 30,550	(12) 30,550	(9) 35,400	(13) 38,200	(27) 42,400	(17) 49,600	(8) 52,000	(13) 53,650	(10) 55,150	(22) 55,500
Fabricated Metal Products	(74) 29,400	(62) 30,600	(60) 36,050	(61) 38,950	(168) 43,050	(109) 49,650	(123) 51,750	(89) 53,150	(47) 54,450	(78) 54,750
Automotive	(13) 30,150	(29) 31,400	(14) 36,100	(10) 38,200	(25) 40,950	(39) 44,950	(28) 46,300	(22) 47,300	(9) 48,450	(12) 49,000
Other Durable Goods Mfg.	(135) 28,900	(188) 30,150	(176) 35,250	(186) 37,800	(459) 41,450	(371) 47,750	(365) 50,200	(346) 52,100	(260) 54,450	(511) 55,700
Other Non-durable Goods Mfg.	(21) 31,200	(20) 32,700	(14) 39,000	(19) 42,200	(55) 47,000	(57) 55,350	(44) 58,600	(39) 61,150	(39) 64,200	(49) 65,600
Petroleum	(133) 33,800	(123) 35,700	(248) 43,900	(300) 48,200	(705) 54,650	(498) 66,250	(428) 70,850	(252) 74,350	(180) 78,450	(257) 79,950
Electric Utilities	(216) 31,600	(322) 33,150	(410) 39,450	(591) 42,600	(1,326) 47,100	(1,410) 54,300	(1,029) 56,750	(643) 58,350	(350) 59,750	(486) 59,500
Gas Utilities	(9) 33,350	(11) 33,350	(16) 38,850	(31) 41,750	(61) 46,200	(41) 55,000	(53) 59,050	(22) 62,800	(27) 68,900	(48) 74,650
Machinery, Non-Electrical	(8) 40,050	(7) 45,750	(9) 45,350	(7) 45,750	(16) 40,050	(19) 45,750	(20) 45,350	(16) 46,700	(7) 48,450	(25) 47,560

SOURCE: Engineering Manpower Commission of the American Association of Engineering Societies,
Professional Income of Engineers, 1989

TABLE 127

**MEDIAN SALARIES OF ENGINEERS BY TYPE OF EMPLOYMENT GROUP AND
 SUPERVISORY STATUS, 1989**

EMPLOYMENT GROUP	Supervisor	Non-Supervisor	Percent Differential
ALL INDUSTRY	\$60,400	\$43,300	39.5
All Manufacturing Industries	58,350	41,650	40.1
Aerospace	63,300	40,250	57.3
Chemicals/Drugs/Plastics	66,100	47,450	39.3
Electrical Machinery/Electronics/ Computers	61,000	41,600	46.6
Electrical Machinery	54,000	38,650	39.7
Electronic Equipment	61,600	41,750	47.5
Computers	57,950	40,850	41.9
Fabricated Metal Products	56,800	39,200	44.9
Petroleum	76,500	48,600	57.4
Other Durable Goods Mfg.	55,150	40,800	35.2
All Non-Manufacturing	62,600	46,850	33.6
Communication Services	54,700	41,550	31.6
Construction	61,500	45,550	35.0
Consulting & Engineering Services	61,200	44,900	36.3
Consulting	61,800	44,750	38.1
Engineering Services	62,200	45,750	36.0
Electric & Gas Utilities	59,150	45,150	31.0
Electric Utilities	58,800	45,250	39.2
Gas Utilities	65,350	42,100	55.2
Research and Development Labs.	72,150	51,450	40.2
Federal Government	53,200	38,250	39.1
State Government	45,950	34,850	31.9

SOURCE: Engineering Manpower Commission of American Association of Engineering Societies, *Engineering Salaries: Special Industry Report 1989*

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TABLE 128

NUMBER OF MEDIAN ANNUAL SALARIES OF ALL ENGINEERS EMPLOYED IN INDUSTRY BY HIGHEST DEGREE AND SELECTED YEARS SINCE BACCALAUREATE, 1989

Employment Group	YEARS SINCE BACCALAUREATE									
	1	5	7	9-11	15-17	18-20	21-23	27-29	33 +	Overall
B. S.	(3,119) \$31,400	(3,318) \$36,650	(3,514) \$39,200	(6,960) \$42,850	(5,495) \$48,700	(4,889) \$50,750	(4,562) \$52,200	(4,379) \$53,650	(6,513) \$53,900	(77,667) \$42,700
M. S.		(939) 41,400	(1,104) 43,850	(2,787) 47,400	(2,679) 53,400	(2,498) 55,750	(2,334) 57,600	(1,758) 60,100	(2,086) 61,800	(26,931) 51,200
Ph. D.		(78) 47,600	(178) 49,250	(700) 52,100	(848) 58,200	(934) 61,050	(953) 63,550	(601) 67,150	(574) 69,250	(7,309) 59,600
ALL LEVELS	(3,442) 31,650	(4,334) 37,500	(4,797) 40,400	(10,447) 44,550	(9,021) 51,200	(8,321) 53,500	(7,850) 55,050	(6,738) 56,450	(9,173) 56,400	(111,907) 46,850

NOTE: Blanks indicate too few respondents to compute median salaries.

SOURCE: Engineering Manpower Commission of American Association of Engineering Societies, *Professional Income of Engineers, 1989*.

TABLE 129

NUMBER AND MEDIAN ANNUAL SALARIES OF ENGINEERS BY GEOGRAPHIC AREA AND SELECTED YEARS SINCE BACCALAUREATE, 1989*

GEOGRAPHIC AREA	YEARS SINCE BACCALAUREATE									
	0	1	5	7	9-11	15-17	18-20	21-23	27-29	30 +
New England	(261) \$29,750	(350) \$31,200	(350) \$37,100	(360) \$40,000	(917) \$44,050	(849) \$50,350	(699) \$52,300	(679) \$53,500	(395) 54,200	(8,998) \$53,350
Middle Atlantic	(796) 31,050	(1,055) 32,600	(1,299) 38,950	(1,395) 42,100	(3,674) 46,550	(2,905) 53,650	(2,416) 55,950	(2,136) 57,450	(1,676) 58,550	(2,650) 58,000
East North Central	(949) 30,750	(967) 32,350	(1,077) 38,900	(1,228) 42,000	(2,961) 46,660	(2,457) 53,100	(2,287) 54,900	(1,688) 55,800	(1,155) 55,700	(1,600) 53,950
West North Central	(145) 27,800	(111) 29,150	(216) 34,850	(272) 37,800	(715) 42,050	(408) 49,500	(344) 52,300	(270) 54,450	(241) 56,900	(313) 57,750
South Atlantic	(596) 30,050	(766) 31,300	(955) 36,550	(940) 39,200	(2,053) 42,950	(1,566) 49,550	(1,580) 52,100	(1,286) 54,100	(908) 56,600	(1,949) 58,000
East South Central	(252) 29,600	(254) 30,900	(224) 36,200	(259) 38,800	(678) 42,650	(591) 49,300	(550) 51,850	(554) 53,850	(388) 56,350	(515) 57,650
West South Central	(564) 30,100	(529) 31,550	(774) 37,450	(952) 40,450	(2,119) 44,700	(1,430) 51,650	(1,238) 54,050	(1,125) 55,750	(757) 57,300	(1,009) 57,300
Mountain	(97) 30,700	(134) 32,250	(246) 38,750	(282) 42,050	(780) 46,750	(711) 54,450	(579) 57,100	(527) 58,900	(344) 60,350	(445) 60,000
Pacific Coast	(359) 31,350	(402) 32,900	(441) 39,600	(640) 43,000	(1,700) 48,100	(1,512) 57,000	(1,402) 60,450	(1,294) 63,000	(1,144) 66,000	(1,750) 67,050

*Includes only engineers employed in industry.

SOURCE: Engineering Manpower Commission of American Association of Engineering Societies, *Professional Income of Engineers*, 1989.

TABLE 130

MEDIAN AND MEAN SALARIES OF ENGINEERS BY GEOGRAPHICAL REGION, 1989*

GEOGRAPHICAL REGION	Median	Mean
Pacific	\$53,600	\$55,800
Middle Atlantic	48,250	49,750
Mountain	50,500	52,300
New England	44,850	46,550
East North Central	46,000	48,150
West North Central	43,300	45,050
East South Central	45,400	48,100
West South Central	45,000	48,150
South Atlantic	43,950	46,850

*Includes only engineers in industry or government.

SOURCE: National Society of Professional Engineers, Prepared by Abbott, Langer & Associates, *Professional Engineer Income and Salary Survey*, 1985, 1988, and 1989.

TABLE 131

MEDIAN INCOME OF PROFESSIONAL ENGINEERS BY LEVEL OF EDUCATION, 1985-1989

LEVEL OF EDUCATION	MEDIAN INCOME			% INCREASE	
	1985	1988	1989	1985-88	1988-89
Less than BA/BS Degree	\$43,500	\$51,742	\$52,784	18.9	2.0
B. A. Degree	48,049	55,461	59,000	15.4	8.3
B. S. Degree (Non-Engineering)	48,638	50,000	54,000	2.8	8.0
B. S. Degree (Engineering)	44,180	48,012	50,000	8.7	4.1
M.A./M.S. Degree (not MBA or Eng.)	48,024	54,000	54,500	12.4	0.9
MBA Degree	48,860	55,000	56,000	12.6	1.8
M.A./M.S. Degree in Engineering	47,000	53,600	56,200	27.1	4.9
MBA & an M.A./M.S. Degree	*	57,880	62,000		7.1
Doctorate (Non-Engineering)	55,435**	65,000**	67,000	17.3	3.1
Doctorate (Engineering)			68,000		

* Data Not Available ** Includes All Doctorates.

SOURCE: National Society of Professional Engineers, Prepared by Abbott, Langer and Associates, *Professional Engineer Income and Salary Survey, 1989*, May 1989

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TABLE 132

MEDIAN INCOME OF PROFESSIONAL ENGINEERS BY BRANCH OF ENGINEERING AND LENGTH OF EXPERIENCE,
1989

BRANCH OF ENGINEERING	UNDER 1 YR.	1 YR.	2 Yrs.	3Yrs.	4 Yrs.	5-9 Yrs.	10-14 Yrs.	15-19 Yrs.	20-24 Yrs.	25-29 Yrs.	30 Yrs. or More
Aeronautical & Aerospace	\$	\$30,797	\$	\$34,390	\$35,600	\$40,000	\$44,800	\$52,000	\$64,193	\$58,000	\$69,100
Agricultural			31,461			42,100	42,000	49,274	65,244	53,850	58,650
Architectural						44,015	55,000	52,360	57,060	67,960	69,000
Chemical	32,150		32,700	36,500	34,800	42,000	51,500	56,500	66,000	65,350	70,000
Civil (General)	27,496	27,872	28,153	29,120	32,212	38,387	46,850	54,000	59,550	60,000	61,295
Civil (Primarily Structural)	30,240	29,400	28,150	31,000	31,650	40,200	48,000	55,000	60,000	64,200	67,371
Civil (Primarily Surveying)						33,570	49,500	40,000	53,000	54,000	54,080
Cost/Value						43,140	57,250	50,234	55,967	58,760	64,458
Electrical & Electronic	28,375	29,750	32,445	35,000	36,500	43,000	49,900	56,000	60,000	62,550	65,000
Industrial			33,800	35,233		42,000	51,232	55,000	62,485	74,128	71,700
Manufacturing			33,326	35,200		41,210	46,600	62,000	68,500	54,375	70,250
Mechanical	30,000	29,250	32,000	33,000	37,006	42,000	48,045	55,000	61,350	63,525	63,700
Metallurgical & Materials						43,500		49,750	51,644	72,000	60,846
Mining						43,876	47,080	73,000		57,300	60,250
Nuclear			35,600			45,907	58,000	59,776	65,121	63,900	72,500
Petroleum				35,740		47,280	72,500	64,261	86,003	90,728	79,500
Safety						39,600	42,778		51,870	50,400	60,000
Sanitary, Envir. & Pollution Control			31,064	34,000	32,520	41,170	50,100	57,500	59,760	63,340	71,000

SOURCE: National Society of Professional Engineers, Prepared by Abbott, Langer & Associates, *Professional Engineer Income and Salary Survey*, 1989.

TABLE 133

MEDIAN INCOME OF PROFESSIONAL ENGINEERS BY LEVEL OF EDUCATION AND LENGTH OF EXPERIENCE, 1989

LENGTH OF EXPERIENCE	Less than Bachelor's Degree	B.S. in Engineering	M.S. in Engineering	Doctorate in Engineering	M.B.A.
Under 1 Yr.	\$	\$27,750	\$31,832	\$	\$
1 Yr.		30,000	30,800		
2 Yrs.		30,350	36,000	43,960	36,995
3 Yrs.		32,474	34,997		
4 Yrs.		34,030	35,680		36,700
5-9 Yrs.	48,720	40,404	41,200	42,650	43,500
10-14 Yrs.	35,970	47,838	50,062	52,566	49,800
15-19 Yrs.	48,630	54,325	57,500	64,487	57,850
20-24 Yrs.	57,000	58,500	63,100	67,000	68,499
25-29 Yrs.	57,191	60,000	62,000	77,050	67,500
30 Yrs. or More	52,000	63,000	67,500	72,000	65,725
TOTAL		50,000	56,200	68,000	

SOURCE: National Society of Professional Engineers, Prepared by Abbott, Langer and Associates *Professional Engineer Income and Salary Survey*, 1985, 1988 and 1989.

TABLE 134

MEDIAN INCOME OF PROFESSIONAL ENGINEERS BY REGION, 1985-1989

REGION	MEDIAN INCOME			% INCREASE	
	1985	1988	1989	1985-88	1988-89
NORTHEASTERN STATES	\$48,000	\$55,000	\$58,207	14.6	5.8
SOUTHERN STATES*	45,000	50,000	51,480	11.1	3.0
GREAT LAKES STATES	44,250	49,878	52,392	12.7	5.0
GREAT PLAINS STATES	42,100	45,698	48,000	10.9	2.8
SOUTHWESTERN STATES	46,800	49,900	51,123	6.6	2.5
PACIFIC & WESTERN STATES**	48,000	54,000	56,195	12.5	4.1

* Includes Puerto Rico and Panama,

** Includes Alaska, Hawaii, and Guam.

SOURCE: National Society of Professional Engineers, Prepared by Abbott, Langer & Associates. *Professional Engineer Income and Salary Survey, 1989, May 1989*

TABLE 135

NUMBER, MEDIAN AND MEAN ANNUAL SALARIES OF PROFESSIONAL ENGINEERS BY METROPOLITAN AREA, 1989

METROPOLITAN AREA	Number Reported	Median	Mean
Atlanta (GA) & Vicinity	220	\$53,250	\$62,516
Baltimore (MD) & Vicinity	102	51,960	61,424
Birmingham (AL) & Vicinity	80	55,100	64,512
Boston/Lawrence/Salem (MA/NH) & Vicinity	234	57,189	70,483
Buffalo/Niagara Falls (NY) & Vicinity	85	48,000	52,784
Charlotte/Gastonia/Rock Hill (NC/SC) & Vicinity	196	52,165	60,946
Chicago/Gary/Lake County (IL/IN/WI) & Vicinity	485	58,000	69,723
Cincinnati/Hamilton (OH/KY/IN) & Vicinity	102	49,150	54,812
Cleveland/Akron/Lorain (OH) & Vicinity	176	52,765	62,205
Columbus (OH) & Vicinity	27	45,653	56,918
Dallas/Ft. Worth (TX) & Vicinity	494	50,450	59,096
Dayton/Springfield (OH) & Vicinity	58	47,755	53,945
Denver/Boulder/Colorado Springs (CO) & Vicinity	185	54,000	62,145
Detroit/Ann Arbor (MI) & Vicinity	299	56,000	66,472
Hartford/New Britain/Middletown (CT) & Vicinity	98	60,500	80,653
Houston/Galveston/Brazoria (TX) & Vicinity	453	57,580	68,415
Indianapolis (IN) & Vicinity	120	57,008	70,615
Kansas City (MO/KS) & Vicinity	232	52,430	58,316
Los Angeles/Anaheim/Long Beach/Riverside (CA) & Vicinity	220	60,591	74,891
Louisville (KY/IN) & Vicinity	119	46,529	58,052
Memphis TN/AR/MS) & Vicinity	84	48,017	57,582
Miami/Fort Lauderdale (FL) & Vicinity	181	53,600	63,800
Middlesex/Somerset/Hunterdon Counties (NJ) & Vicinity	78	64,250	76,428
Milwaukee/Racine (WI) & Vicinity	179	54,912	68,775
Minneapolis/St. Paul (MN/WI) & Vicinity	216	50,702	57,502
Monmouth/Ocean Counties (NJ) & Vicinity	41	62,900	89,648
Nashville (TN) & Vicinity	100	48,638	60,096
Naussau/Suffolk Counties (NY) & Vicinity	99	63,000	72,712
New Orleans (LA) & Vicinity	133	52,000	66,954
New York City (NY) 5 Boroughs	323	69,600	84,808
Newark/Jersey City (NJ) & Vicinity	231	65,000	74,077
Norfolk/Virginia Beach/Newport News (VA) & Vicinity	125	53,000	60,522
Oklahoma City (OK) & Vicinity	130	48,586	56,831
Orlando (FL) & Vicinity	147	54,332	62,386
Philadelphia/Wilmington (PA/NJ/DE/MD) & Vicinity	402	55,450	67,927
Phoenix (AZ) & Vicinity	118	55,000	63,909
Pittsburgh (PA) & Vicinity	195	50,940	56,963
Portland/Vancouver (OR/WA) & Vicinity	63	54,000	62,529
Providence/Pawtucket/Fall River (RI/MA) & Vicinity	52	57,350	85,878
Rochester (NY) & Vicinity	66	58,702	60,531
Sacramento (CA) & Vicinity	38	57,535	61,534
Salt Lake City/Ogden (UT) & Vicinity	42	54,585	64,467
San Antonio (TX) & Vicinity	149	50,200	74,852
San Diego (CA) & Vicinity	27	63,710	75,010
San Francisco/Oakland (CA) & Vicinity	117	61,605	74,005
San Jose (CA) & Vicinity	72	56,587	67,519
Seattle/Tacoma (WA) & Vicinity	84	51,260	56,646
St. Louis (MO/IL) & Vicinity	240	52,000	60,250
Tampa/St. Petersburg/Clearwater (FL) & Vicinity	178	50,000	57,498
Washington (DC/MD/VA) & Vicinity	371	59,000	64,226

SOURCE: National Society of Professional Engineers, Prepared by Abbott, Langer & Associates, *Professional Engineer Income and Salary Survey, 1989, May 1989*

TABLE 136

**NUMBER REPORTED, MEAN AND MEDIAN INCOME OF PROFESSIONAL ENGINEERS BY
INDUSTRY OR SERVICE OF EMPLOYER, 1989**

INDUSTRY OR SERVICE OF EMPLOYER	Total Employees Reported	Median	Mean
ALL MANUFACTURING/EXTRACTIVE EMPLOYERS	2,771	\$52,579	\$61,489
Aerospace & Aircraft Products	298	50,402	54,870
Chemical, Pharmaceutical & Allied Products	312	56,200	63,547
Coal Products	65	53,110	63,545
Electrical & Electronic Equipment	431	51,865	62,005
Fabricated Metal Products	274	51,250	60,458
Food, Beverage & Tobacco Products	136	57,350	62,276
Machinery (except electrical)	168	52,000	63,474
Petroleum & Natural Gas Products	303	57,315	68,748
Primary Metal Industries	85	50,283	56,407
Rubber & Plastic Products	94	50,397	65,946
Stone, Clay & Glass and Concrete Products	112	54,275	57,590
Transportation Equipment	171	53,000	60,503
ALL NON-MANUFACTURING/EXTRACTIVE EMPLOYEES	9,926	53,000	63,284
College & Universities	524	58,250	62,819
Communication Services	186	54,350	62,079
Construction & Real Estate Development	794	60,500	79,375
Government-Federal (including Military)	605	45,986	48,134
Government- State	557	45,000	48,149
Government-Local (Cities/Counties/Etc.)	865	46,226	49,123
Private Practice-Chemical	23	66,000	82,398
Private Practice-Civil/Structural	2,039	53,000	65,505
Private Practice-Electrical	165	60,000	72,440
Private Practice-Electronics	21	53,062	59,511
Private Practice-Mechanical	196	56,000	74,109
Private Practice-Other or Combination	1,806	60,000	71,384
Research Organizations & Laboratories	170	60,000	66,630
Transportation Services	79	53,000	57,359
Utilities-Electric	917	52,000	56,936
Utilities-Gas	129	49,800	58,945
Utilities-Pipelines	84	51,500	60,158
Utilities-Other or Mixed	244	52,750	59,525

SOURCE: National Society of Professional Engineers, Prepared by Abbott, Langer & Associates, *Professional Engineer Income and Salary Survey, 1985, 1988 and 1989.*

TABLE 137

MEDIAN INCOME OF PROFESSIONAL ENGINEERS BY BRANCH OF ENGINEERING, 1985-1989

BRANCH OF ENGINEERING	MEDIAN INCOME			% INCREASE	
	1985	1988	1989	1985-88	1988-89
Aeronautical and Aerospace	\$47,360	\$48,500	\$51,700	2.4	6.6
Agricultural	45,000	45,266	49,400	0.6	9.1
Architectural	47,500	53,220	56,250	12.0	5.7
Chemical	49,200	52,140	53,700	6.0	3.0
Civil (General)	43,423	49,000	51,250	12.8	4.6
Civil (Primarily Structural)	45,000	52,000	54,000	15.6	3.8
Civil (Primarily Surveying)	39,817	45,500	46,800	14.3	2.9
Cost/Value	42,075	54,100	54,325	28.6	0.4
Electrical & Electronic	47,500	51,600	53,904	8.6	4.7
Industrial	45,000	49,900	48,553	10.9	-2.7
Manufacturing	44,947	47,500	52,021	5.7	9.5
Mechanical	46,500	51,000	52,722	9.7	3.4
Metallurgical & Materials	47,600	52,500	52,000	10.3	-0.95
Mining		47,800	51,700		8.2
Nuclear	48,228	52,850	58,664	9.6	11.0
Petroleum	57,000*	60,000	65,600	5.3	9.3
Safety	41,842	47,000	48,000	12.3	2.1
Sanitary, Environmental & Pollution Control	42,900	51,944	54,000	21.1	4.0

* Includes Mining NOTE: Indicates no data available.

TABLE 138

MEDIAN INCOME OF PROFESSIONAL ENGINEERS BY JOB FUNCTION 1985-1989

JOB FUNCTION	MEDIAN INCOME			% INCREASE	
	1985	1988	1989	1985-88	1988-89
Construction Supervision	\$40,000	\$45,000	\$47,000	12.5	4.4
Design	39,136	43,800	46,000	11.9	5.0
Executive/Administrative	55,000	62,000	65,000	12.7	4.8
Production, Quality Control, Maintenance, Etc.	40,584	45,000	46,784	10.9	4.0
Project Study & Analysis	41,200	45,127	48,215	9.5	6.8
Research and Development	46,000	50,700	54,755	10.2	8.0
Sales/Marketing	46,000	52,000	52,453	13.0	0.9
Teaching/Training	44,000	50,000	52,317	13.6	4.6

SOURCE: National Society of Professional Engineers, Prepared by Abbott, Langer & Associates, *Professional Engineer Income and Salary Survey, 1989*

TABLE 139

MEDIAN INCOME OF PROFESSIONAL ENGINEERS BY JOB FUNCTION AND LENGTH OF EXPERIENCE, 1989

LENGTH OF EXPERIENCE	Construction/ Supervision	Project Study & Analysis	Design	Executive/ Administrative	Production, Quality Control, Maintenance	Research and Development	Sales/ Marketing	Teaching/ Training
Under 1 Yr.	\$25,000	\$30,200	\$27,466	\$	\$28,875	\$29,500	\$	\$
1 Yr.	28,000	30,932	29,099		31,200	33,000		
2 Yrs.	29,750	31,140	30,000	35,000	32,675	36,800	29,000	
3 Yrs.	29,115	34,000	31,800	35,552	35,200	36,204	37,975	
4 Yrs.	32,076	35,000	33,280	38,000	36,151	37,250		
5-9 Yrs.	40,500	41,317	39,392	46,200	43,565	39,624	42,750	39,750
10-14 Yrs.	47,721	48,120	46,000	53,708	48,000	53,200	54,300	43,500
15-19 Yrs.	52,250	54,000	51,700	60,735	52,282	56,280	57,000	47,105
20-24 Yrs.	55,400	56,136	56,000	68,400	57,350	62,500	56,000	51,000
25-29 Yrs.	52,000	56,000	55,033	70,905	54,717	59,000	60,000	56,525
30 Yrs. or More	58,000	60,410	55,325	73,631	54,000	63,700	60,000	58,348

TABLE 140

**WEIGHTED AVERAGE ANNUAL BASE SALARY AND COMPENSATION OF ENGINEERS
BY WORK FOCUS AND LEVEL OF RESPONSIBILITY, 1989**

WORK FOCUS	Entry Level Engineer	Journeyman Engineer	Engineering Supervisor	Engineering Manager
APPLIED RESEARCH Salary	\$35,100	\$44,300	\$59,400	\$81,200
Compensation	35,100	44,400	59,800	85,800
BASIC RESEARCH Salary	31,700	47,300		
Compensation	31,700	47,300		
FACILITY DESIGN/CONSTRUCTION Salary	33,900	43,700	58,700	77,700
Compensation	33,900	43,800	59,000	81,100
FIELD INSTALLATION & SERVICE Salary	30,700	41,600	52,900	92,200
Compensation	32,400	42,700	55,600	113,900
MANUFACTURING Salary	33,600	41,800	54,900	66,200
Compensation	35,900	45,400	58,400	77,000
PLANT OPERATIONS Salary	32,400	42,900	57,800	70,900
Compensation	32,500	43,100	58,700	72,300
PROCESS DEVELOPMENT Salary	34,400	46,400	58,100	71,500
Compensation	34,600	46,500	58,900	71,500
PRODUCT DEVELOPMENT Salary	33,800	43,300	57,300	75,100
Compensation	34,300	43,500	57,700	80,500
TECHNICAL SALES and/or SERVICES Salary	38,800	41,900	53,300	68,900
Compensation	34,100	42,100	54,000	71,400
UTILITY OPERATIONS Salary			53,900	78,600
Compensation			53,900	78,600
OTHER Salary	33,800	40,700	55,800	69,200
Compensation	34,000	40,800	56,300	71,000

TABLE 141

WEIGHTED AVERAGE ANNUAL BASE SALARY AND COMPENSATION OF ENGINEERS
BY DISCIPLINE AND LEVEL OF RESPONSIBILITY, 1989

DISCIPLINE	Entry Level Engineer	Journeyman Engineer	Engineering Supervisor	Engineering Manager
AEROSPACE				
Salary	\$34,200	\$42,700	\$59,600	\$74,500
Compensation	34,200	42,700	59,600	86,600
CERAMIC				
Salary	36,300	47,700	62,500	79,400
Compensation	36,300	47,800	68,100	79,400
CHEMICAL				
Salary	34,200	45,000	58,700	73,200
Compensation	34,400	45,200	59,800	77,100
CIVIL				
Salary	34,000	45,300	54,400	67,000
Compensation	34,200	45,500	54,800	68,800
ELECTRICAL				
Salary	35,200	46,200	57,000	76,200
Compensation	35,200	46,300	57,500	79,000
HARDWARE/SYSTEMS				
Salary	36,400	42,500	55,900	72,400
Compensation	36,400	43,500	58,200	75,700
INDUSTRIAL				
Salary	32,800	40,300	52,800	63,000
Compensation	34,300	43,900	57,700	77,600
MECHANICAL				
Salary	34,400	44,000	56,600	78,200
Compensation	34,500	44,400	57,400	81,900
METALLURGICAL				
Salary	33,400	42,900	51,600	70,500
Compensation	34,900	43,800	52,100	72,100
NUCLEAR				
Salary	35,700	41,600	58,600	77,200
Compensation	35,700	41,700	58,600	77,500
SOFTWARE				
Salary	34,800	44,100	54,500	72,700
Compensation	34,800	44,300	55,000	74,700
OTHER (Composite)				
Salary	34,300	45,600	56,300	78,400
Compensation	34,500	45,800	57,100	83,200

TABLE 142

WEIGHTED AVERAGE ANNUAL SALARY AND COMPENSATION OF ENGINEERS BY GEOGRAPHIC REGION AND LEVEL OF RESPONSIBILITY, 1989

GEOGRAPHIC REGION	JOB LEVEL											
	Engineer I	Engineer II	Engineer III	Engineer IV	Engineer V (Tech.)	Engineer V (Supv.)	Engineer VI (Tech.)	Engineer VI (Supv.)	Engineer VII (Tech.)	Engineer VII (Mgr.)	Engineer VIII (Tech.)	Engineer VIII (Mgr.)
TOTAL												
Salary	\$31,800	\$36,100	\$40,500	\$47,800	\$54,400	\$54,300	\$60,500	\$59,200	\$64,600	\$75,600	\$75,700	\$87,200
Compensation	31,900	36,500	41,000	48,200	54,700	54,900	61,500	60,900	65,100	79,800	78,200	97,000
CALIFORNIA												
Salary	31,800	39,900	41,300	48,300	55,800	54,300	61,700	55,000	74,100	78,500	80,600	87,300
Compensation	31,900	40,100	41,500	48,700	56,200	55,100	62,800	56,200	76,200	80,200	80,700	100,800
WEST EXCLUDING CALIFORNIA												
Salary	35,100	37,500	40,300	47,300	56,300	54,100	59,200	59,400	65,000	69,200		71,800
Compensation	35,100	37,900	40,400	47,300	56,300	54,200	59,400	59,600	65,100	69,400		73,100
DALLAS/HOUSTON												
Salary	30,900	35,600	41,100	49,900	57,500	58,400	68,100	62,600	70,700	82,500		110,200
Compensation	31,100	35,800	41,400	50,200	57,800	58,800	69,000	63,500	71,700	91,200		130,000
SOUTHEAST												
Salary	31,200	36,700	39,900	48,100	53,200	56,000	60,400	57,500	63,600	75,300	67,800	93,500
Compensation	31,200	36,900	40,000	48,200	53,400	56,500	61,700	58,000	64,400	77,600	70,500	96,600
NORTH CENTRAL												
Salary	32,600	34,100	40,300	45,900	51,500	52,200	59,600	57,800		75,100		85,700
Compensation	33,300	35,000	41,000	46,400	51,800	53,800	62,100	59,900		82,500		98,900
WEST CENTRAL												
Salary	33,700	36,200	38,400	44,800	49,900	51,700	58,900	59,300		82,700		97,200
Compensation	34,800	36,500	39,500	45,300	50,500	52,800	59,100	61,400		90,400		112,000
EAST CENTRAL												
Salary	31,800	36,400	41,100	45,600	51,200	55,800	58,700	62,800	65,100	80,800		89,300
Compensation	32,200	37,900	42,700	46,700	52,800	57,000	61,900	65,400	66,700	89,700		112,300
CHICAGO/MILWAUKEE												
Salary	31,700	36,000	40,400	45,500	50,900	54,000	58,200	58,700	64,800	76,400		99,800
Compensation	31,800	37,300	41,800	48,100	52,300	54,600	59,400	64,500	66,000	91,500		114,300
PITTSBURGH/CLEVELAND/DETROIT												
Salary	30,900	36,700	39,400	45,000	52,500	52,500	59,200	58,300	61,700	75,000	71,500	93,700
Compensation	30,900	37,100	39,900	45,400	52,700	54,400	60,100	59,900	62,200	77,500	74,600	112,800
MID-ATLANTIC												
Salary	30,800	34,400	41,700	49,100	55,400	49,000	57,600	55,900	62,000	73,800	77,400	84,000
Compensation	30,800	34,500	41,800	49,200	55,600	49,100	58,200	56,200	62,100	74,900	77,400	90,000
NEW ENGLAND												
Salary	30,300	35,200	40,200	46,300	54,700	54,400	63,600	59,800	67,100	79,000	82,800	85,400
Compensation	30,400	35,700	40,500	46,700	55,300	55,200	64,000	60,900	67,400	84,300	84,100	90,200
METRO NEW YORK												
Salary	32,100	34,700	40,200	47,300	54,300	54,600	63,800	65,800	79,700	76,100	83,000	98,000
Compensation	32,200	34,900	40,300	47,600	54,800	55,100	64,500	67,100	86,600	78,600	96,000	119,500

NOTE: Blanks indicate insufficient data.

SOURCE: The Hay Group, Inc., *Hay Access Compensation Report, 1989 Engineering Positions.*

TABLE 143

WEIGHTED AVERAGE ANNUAL SALARY AND COMPENSATION OF ENGINEERS BY TYPE OF INDUSTRY AND LEVEL OF RESPONSIBILITY, 1989

TYPE OF INDUSTRY	J O B L E V E L											
	Engineer I	Engineer II	Engineer III	Engineer IV	Engineer V (Tech.)	Engineer V (Supv.)	Engineer VI (Tech.)	Engineer VI (Supv.)	Engineer VII (Tech.)	Engineer VII (Mgr.)	Engineer VIII (Tech.)	Engineer VIII (Mgr.)
TOTAL												
Salary	\$31,800	\$36,100	\$40,500	\$47,800	\$54,400	\$54,300	\$60,500	\$59,200	\$64,600	\$75,600	\$75,700	\$87,200
Compensation	31,900	36,500	41,000	48,200	54,700	54,900	61,500	60,900	65,100	79,800	78,200	97,000
CHEMICAL/PETROLEUM												
Salary	32,700	37,300	42,800	51,100	58,300	64,200	65,600	66,000	73,000	91,400		108,700
Compensation	32,700	37,600	42,800	51,200	58,500	64,600	65,900	66,800	75,300	100,600		138,900
CONSULTING/R&D												
Salary	32,100	35,900	38,500	47,300	54,600	51,300	58,000	58,300	64,500	71,800	76,200	78,300
Compensation	32,100	35,900	38,500	47,300	54,600	51,300	59,700	58,400	64,700	72,800	76,300	81,100
CONSUMER												
Salary		36,900		50,500	57,600	53,700	63,100	61,100	75,900	80,800		
Compensation		36,900		50,500	58,400	54,200	63,400	63,700	80,000	87,200		
HEAVY MANUFACTURING												
Salary	32,500	33,700	41,100	46,700	50,100	49,300	58,600	57,300	67,800	79,700		101,800
Compensation	32,800	34,000	42,200	47,300	50,500	49,400	59,800	59,400	70,100	88,700		118,000
HIGH TECHNOLOGY												
Salary	30,800	35,200	40,000	46,800	53,800	54,300	63,900	60,700	63,000	73,900	70,900	85,100
Compensation	30,800	35,200	40,000	47,000	53,900	54,400	64,100	61,200	63,100	74,800	71,000	87,700
LIGHT MANUFACTURING												
Salary	29,500	33,800	37,900	45,700	54,000	52,600	61,900	55,800	65,000	68,900		91,600
Compensation	29,700	34,800	39,100	47,900	55,800	53,500	62,800	59,600	66,500	80,900		117,100
UTILITIES												
Salary	32,600	36,500	41,300	49,800	56,300	55,700	66,300	59,300		84,500		95,500
Compensation	32,600	36,500	41,300	49,800	56,300	55,700	66,300	59,300		84,900		97,800
METALS & MINING												
Salary	32,200	35,900	41,200	46,000	52,900	52,400	56,100	56,900	62,900	72,400		95,300
Compensation	32,300	36,300	44,300	48,600	55,900	56,100	60,200	60,300	66,900	77,600		117,000
OTHER												
Salary	32,300	38,700	41,800	48,300	52,700	55,700	57,700	61,700	66,200	77,200	90,700	86,600
Compensation	32,500	39,400	42,300	48,900	53,200	56,600	58,700	63,900	68,000	82,300	100,600	99,400

NOTE: Blanks indicate insufficient data.

SOURCE: The Hay Group, 1989 Survey of High Technology Compensation and Benefits.

TABLE 144

NUMBER MEDIAN AND AVERAGE BASE SALARY IN THE HIGH TECHNOLOGY INDUSTRY BY POSITION TITLE, 1989

POSITION TITLE	Average Base Salary	Median Salary	Number
Chairman, President, & Chief Executive Officer	\$165,600	\$150,000	97
Executive Vice President, Chief Operating Officer	124,900	114,000	60
Head of Finance	96,400	86,000	85
Head of Legal Affairs	108,600	94,600	18
Head of Contracts	72,900	66,000	28
Head of Administration	87,100	76,000	32
Division Head I	101,200	93,000	149
Division Head II	82,800	77,300	176
Division Head III	68,500	61,500	186
Program Manager I	71,600	72,300	261
Program Manager II	68,900	65,300	297
Program Manager III	60,900	59,100	407
Project Manager I	59,700	58,500	151
Project Manager II	53,900	54,500	735
Project Manager III	50,000	51,000	138
Senior Systems Analyst	46,700	45,900	767
Journeyman Systems Analyst	37,900	37,000	735
Associate Systems Analyst	31,300	30,000	393
Senior Programmer	41,800	39,800	1,226
Journeyman Programmer	31,500	30,500	1,395
Associate Programmer	25,700	25,000	346
Senior Scientist	70,800	71,600	155
Journeyman Scientist	53,500	55,000	807
Associate Scientist	36,900	34,300	120
Senior Engineer	55,300	56,000	767
Journeyman Engineer	43,500	42,100	1,353
Associate Engineer	32,000	32,000	953
Mechanical Technician I	16,500	17,000	48
Mechanical Technician II	19,100	19,200	23
Mechanical Technician III	24,900	23,500	30
Mechanical Technician IV - Senior	27,400	25,700	19
Electronics Technician I	18,700	19,000	337
Electronics Technician II	22,600	22,400	811
Electronics Technician III	27,000	27,500	493
Electronics Technician IV - Senior	32,600	31,500	381
Drafter I	14,900	15,500	41
Drafter II	19,900	20,000	103
Drafter III	24,700	24,000	61
Drafter IV - Senior	31,000	30,600	94

SOURCE: American Chemical Society, *Salaries 1989 - An Analysis of The American Chemical Society's 1989 of Salaries and Employment*, July 1989.

TABLE 145

MEDIAN AND MEAN SALARIES OF CHEMICAL ENGINEERS* EMPLOYED FULL-TIME IN INDUSTRY BY HIGHEST DEGREE AND YEARS SINCE B. S., 1989

YEARS SINCE B.S.	BACHELOR'S		MASTER'S		Ph. D.	
	MEDIAN	MEAN	MEDIAN	MEAN	MEDIAN	MEAN
2-4	\$32,500	\$31,747	\$36,000	\$35,980		
5-9	38,150	38,210	40,000	40,331	\$48,000	\$47,743
10-14	44,500	45,295	49,500	48,985	51,500	52,983
15-19	52,200	52,490	54,000	57,003	60,000	64,016
20-24	58,000	60,403	56,000	57,487	73,000	75,150
25-29	58,750	81,678	62,200	66,031	76,000	80,726
30-34	65,148	73,968	66,750	78,196	76,000	81,221
35-39	65,000	69,216	74,000	78,013	92,000	97,329
40 or More	64,250	74,383	65,000	70,106	65,500	78,660
All Years	47,675	55,375	53,000	58,560	64,740	70,095

*Includes only members of the American Chemical Society.

Note: Blanks indicate less than 15 respondents.

TABLE 146

MEDIAN AND MEAN SALARIES OF CHEMICAL ENGINEERS* EMPLOYED FULL-TIME IN INDUSTRY BY FUNCTION AND DEGREE LEVEL, 1989

Work Function	BACHELOR'S		MASTER'S		Ph. D.	
	MEDIAN	MEAN	MEDIAN	MEAN	MEDIAN	MEAN
Management R&D	\$65,000	\$66,022	\$65,000	\$74,190	\$80,000	\$82,867
Basic Research					53,500	60,098
Applied Research	44,000	45,414	47,000	48,539	56,305	60,384
General Management	74,500	82,347	78,600	84,292	93,950	107,431
Marketing	46,560	52,436	58,000	58,458	72,500	70,046
Production	40,400	43,748	45,600	48,304		
Consulting	38,000	42,682	50,500	50,802	69,980	70,426
Other**	42,560	47,005	54,000	57,170	61,000	65,726

* Includes only members of the American Chemical Society.

**Includes Writing and Computer Programming. NOTE: Blanks indicate fewer than 15 Respondents.

SOURCE: American Chemical Society, Salaries 1989 - *An Analysis of The American Chemical Society's 1989 of Salaries and Employment*, July 1989.

TABLE 147

**MEDIAN AND MEAN SALARIES OF CHEMICAL ENGINEERS* EMPLOYED FULL-TIME
IN INDUSTRY BY DEGREE LEVEL, SUPERVISORY STATUS AND YEARS SINCE B. S.,
1989**

SUPERVISORY STATUS & YEARS SINCE B.S.	BACHELOR'S		MASTER'S		Ph. D.	
	MEDIAN	MEAN	MEDIAN	MEAN	MEDIAN	MEAN
NON-SUPERVISORS TOTAL	\$40,080	\$43,919	\$46,870	\$48,616	\$55,000	\$58,728
2-4	32,300	31,678	35,750	36,075		
5-9	35,000	36,358	40,000	39,407	47,850	47,450
10-14	43,450	42,562	47,200	47,754	49,950	50,366
15-19			50,750	50,751	58,500	59,114
20-24			51,500	50,468	64,001	63,992
25-29			56,400	56,652	67,620	69,531
30-34	54,800	56,528	48,800	50,731	67,150	69,578
35-39	58,000	64,343	62,300	62,036		
40 or More	55,500	54,952	57,350	60,190	60,002	65,564
SUPERVISORS TOTAL	57,000	67,261	62,400	69,231	74,950	78,790
5-9	40,300	40,448	41,000	42,394	48,500	48,708
10-14	46,750	48,557	54,000	51,056	55,000	57,069
15-19	53,775	54,752	63,000	64,328	63,000	66,740
20-24	59,340	66,051	69,300	66,178	77,050	79,564
25-29	60,000	65,396	67,600	69,281	83,450	85,400
30-34	78,000	85,271	80,000	90,633	85,000	89,129
35-39	75,000	76,167	80,500	86,930	93,500	104,649
40 or More	71,500	86,015	72,000	82,329	70,000	93,503

* Includes only members of the American Chemical Society

NOTE: Blanks indicate fewer than 15 respondents.

SOURCE: American Chemical Society, *Salaries 1989 - Analysis of the American Chemical Society's 1989 Survey of Salaries and Employment*, July 1989

TABLE 148

**MEDIAN AND MEAN SALARIES OF FULL-TIME CHEMICAL ENGINEERS*
BY GEOGRAPHICAL REGION AND DEGREE LEVEL, 1989**

GEOGRAPHIC REGION	BACHELOR'S		MASTER'S		Ph. D.	
	MEDIAN	MEAN	MEDIAN	MEAN	MEDIAN	MEAN
Pacific	\$49,259	\$55,771	\$52,000	\$53,229	\$62,160	\$66,708
Mountain	52,000	58,210			60,000	61,961
West North Central	43,200	46,437	55,000	59,609	55,000	61,845
West South Central	50,000	60,078	57,000	61,811	70,000	74,377
East North Central	45,000	52,944	48,000	53,445	58,700	64,265
East South Central	42,600	47,173	55,600	56,446		
Middle Atlantic	50,000	54,577	56,500	62,062	67,000	72,663
South Atlantic	50,000	55,327	53,000	55,413	58,250	70,059
New England	48,624	55,212	50,400	66,297	75,000	78,880

*Includes only members of the American Chemical Society.

NOTE: Blanks indicate fewer than 15 respondents.

SOURCE: Abbott Langer & Associates, *Compensation of Industrial Engineers*, 11th Edition, April 1989

TABLE 149

**NUMBER AND TOTAL ANNUAL INCOME OF INDUSTRIAL ENGINEERS BY
DEGREE LEVEL, JANUARY 1, 1989**

DEGREE LEVEL	Total Employees	Median Income	Mean Income
Ph. D.	361	\$60,000	\$66,633
ME/MS/MA Degree	1,111	48,600	54,480
MBA	802	51,250	57,443
B.S. (Engineering)	2,733	38,600	43,215
B.A./B.S. (Non-Engineering)	768	42,460	46,877
Less than Bachelor's Degree	400	37,748	40,961

SOURCE: Abbott Langer & Associates, *Compensation of Industrial Engineers*, 11th Edition, April 1989

TABLE 150

NUMBER AND TOTAL ANNUAL INCOME OF INDUSTRIAL ENGINEERS BY
YEARS OF EXPERIENCE, JANUARY 1, 1989

YEARS OF EXPERIENCE	Total Employees	Median Income	Mean Income
Under One Year	154	\$29,524	\$30,788
One Year	203	30,000	31,117
Two Years	389	31,000	31,709
Three Years	345	33,675	34,627
Four Years	373	36,000	38,044
5 Through 9 Years	1,363	40,430	42,065
10 Through 14 Years	934	46,483	49,430
15 Through 19 Years	778	51,175	55,443
20 Through 24 Years	628	53,741	59,236
25 Through 29 Years	508	54,886	65,647
30 Years and Over	542	58,000	66,781

TABLE 151

NUMBER AND TOTAL ANNUAL INCOME OF INDUSTRIAL ENGINEERS BY
PRIMARY JOB FUNCTION, JANUARY 1, 1989

PRIMARY JOB FUNCTION	Total Employees Reported	Median Income	Mean Income
Corporate Official, General Management	446	\$71,016	\$84,069
Functional Management, Department Head	1,235	53,600	56,694
Supervisor of Technical or Professional Personnel	667	47,000	48,225
Engineer, Analyst or Other Professional	2,913	36,900	38,446
Consultant	495	49,500	55,681
Educator	309	52,000	55,739

TABLE 152

**NUMBER AND TOTAL ANNUAL INCOME OF INDUSTRIAL ENGINEERS BY
TYPE OF EMPLOYER, JANUARY 1, 1989**

TYPE OF EMPLOYER	Total Employees	Median Income	Mean Income
MFG./EXTRACTIVE ORGANIZATIONS	4,082	\$41,982	\$46,749
Aerospace & Aircraft Products	546	41,000	45,217
Apparel & Other Textile Products	146	42,400	48,023
Chemical, Pharmaceutical & Allied Products	239	52,000	57,567
Electrical & Electronic Equipment	777	42,000	46,244
Fabricated Metal Products	441	38,500	42,830
Food, Beverage & Tobacco Products	279	47,500	51,729
Furniture & Wood Products	100	37,050	41,395
Instruments, Controls & Related Products	69	43,400	48,370
Machinery (Except Electrical)	94	42,530	49,989
Paper & Allied Products	103	43,000	51,084
Petroleum & Coal Products	17	56,100	53,715
Primary Metal Industries	126	42,955	47,152
Printing & Publishing	80	41,092	44,042
Rubber & Plastics Products	175	40,000	44,840
Stone, Clay & Glass Products	68	40,250	43,901
Textile Mill Products	106	38,444	44,161
Transportation Equipment	318	41,529	47,268
NON-MFG./EXTRACTIVE ORGANIZATIONS	2,137	46,456	52,454
Banks & Finance Organizations	78	41,642	61,015
College & Universities	338	52,313	56,543
Communications Services (T.V., Radio, Telephone & Telegraph)	52	49,000	51,926
Consultants (Engineering)	232	50,000	57,434
Consultants (Non-Engineering)	158	52,000	63,726
Government - Federal (including Military & Postal Service)	355	42,158	43,983
Government - State & Local	53	41,900	44,068
Health Care Organizations (Hospital & Nursing Homes)	172	42,794	48,042
Mechandising (Wholesale & Retail)	108	42,500	55,052
Transportation Services	132	50,000	52,243
Utilities	230	46,704	49,077

TABLE 153

**NUMBER AND TOTAL ANNUAL INCOME OF INDUSTRIAL ENGINEERS BY
METROPOLITAN AREA, JANUARY 1, 1989**

METROPOLITAN / GEOGRAPHIC AREA	Total Employees Reported	Median Income	Mean Income
NORTHEASTERN STATES	1,305	\$44,400	\$50,792
Boston & Vicinity	146	46,500	49,867
New York City & Vicinity (NY/NJ/CT)	419	50,925	58,439
Philadelphia & Vicinity (PA/NJ)	196	42,600	47,580
Pittsburgh & Vicinity (PA/OH)	107	41,440	45,391
Northeastern States (excluding specific areas above)	437	41,600	46,532
SOUTHEASTERN STATES	1,647	42,250	46,731
Atlanta & Vicinity	182	42,739	48,849
Washington/Baltimore & Vicinity (DC/MD/VA)	244	43,690	49,645
State of Florida	222	42,900	47,184
Southeastern States (excluding specific areas above)	999	41,559	45,532
GREAT LAKES STATES	1,289	42,224	48,538
Chicago & Vicinity (IL/IN)	315	45,600	52,762
Detroit & Vicinity	162	44,381	51,135
State of Ohio	356	42,446	48,184
Great Lakes States (excluding specific areas above)	456	39,750	44,973
NORTH CENTRAL STATES	538	41,519	45,252
Minneapolis/St. Paul & Vicinity (MN/WI)	111	41,800	43,302
St. Louis & Vicinity (MO/IL)	139	41,000	44,242
North Central States (excluding specific areas above)	288	41,519	46,491
SOUTH CENTRAL STATES	461	42,631	47,608
Dallas/Ft. Worth & Vicinity	176	39,667	45,069
Houston & Vicinity	75	47,938	54,190
South Central States (excluding specific areas above)	210	44,500	47,385
MOUNTAIN STATES	245	45,576	48,695
Denver/Boulder/Colorado Springs/ Pueblo & Vicinity	67	45,760	49,196
Phoenix & Vicinity	77	45,500	47,919
Mountain States (excluding specific areas above)	101	46,000	48,955
PACIFIC STATES	696	46,175	53,049
Los Angeles/San Diego & Vicinity	322	46,450	52,792
San Francisco/Oakland & Vicinity	189	48,000	58,155
Seattle/Everett & Vicinity	68	40,987	51,886
Pacific States (excluding specific areas above)	117	43,000	46,184

SOURCE: Abbott Langer & Associates, *Compensation of Industrial Engineers*, 11th Edition, April 1989

TABLE 154

**NUMBER AND TOTAL ANNUAL INCOME OF INDUSTRIAL ENGINEERS BY
PRIMARY ACTIVITY OR SPECIALTY, JANUARY 1, 1989**

PRIMARY ACTIVITY OR SPECIALTY	Total Employees Reported	Median Income	Mean Income
Cost control/Reduction Programs	451	\$40,000	\$44,611
Engineering Economics	86	44,750	48,730
Facility Planning Design, Layout Environment Protection	397	42,000	46,964
Management Information Systems	274	43,601	48,546
Computer Operations, Systems, Software	231	41,300	46,179
Organizations, Admin.-IE Dept., Plant	636	51,650	56,842
Materials Handling	112	42,750	46,419
Warehousing, Shipping, Receiving	77	41,000	46,111
Methods, Engineering, Proc. Design, Value Analysis, Human Productivity	741	39,000	41,989
Manufacturing Engineering, Automation	548	42,612	45,247
Maintenance, Plant Engineering	127	45,700	48,477
Operations Supervision, Assembly, Clerical, Office	152	47,014	52,773
Mathematical Models, Networks, Simulation	204	46,750	51,619
Production and Inventory Control, Scheduling, Forecasting	191	41,000	44,986
Materials Management	90	49,160	52,777
Quality Control, Reliability	219	42,496	45,551
Work Measurement, Standards Performance Measures	590	37,000	39,698
Incentive Plans, Groups, Individ., Supervisors	73	40,150	44,602

SOURCE: Abbott Langer & Associates, *Compensation in Manufacturing, Engineers and Managers*, 9th Edition, April 1989

TABLE 155

NUMBER, TOTAL ANNUAL BASE SALARY, AND TOTAL ANNUAL COMPENSATION OF ENGINEERS EMPLOYED IN MANUFACTURING BY YEARS OF EXPERIENCE, 1989

YEARS OF EXPERIENCE	BASE SALARY			TOTAL COMPENSATION		
	No.	Median	Mean	No.	Median	Mean
Under 3 Years	97	\$30,000	\$31,233	92	\$30,675	\$31,924
3 - 4 Years	102	33,407	33,562	98	33,610	33,942
5 - 9 Years	240	38,000	38,570	235	38,000	39,209
10 - 14 Years	93	40,144	40,198	92	41,730	41,733
15 - 19 Years	64	40,338	40,811	64	42,270	42,348
20 - 24 Years	27	44,400	44,041	27	47,708	46,025
25 - 29 Years	32	39,600	39,664	32	39,977	40,990
30 Years or More	36	37,752	38,387	36	38,195	39,302

TABLE 156

NUMBER, TOTAL ANNUAL BASE SALARY, AND TOTAL ANNUAL COMPENSATION OF ENGINEERS EMPLOYED IN MANUFACTURING BY MAJOR BRANCH OF ENGINEERING, 1989

MAJOR BRANCH OF ENGINEERING	BASE SALARY			TOTAL COMPENSATION		
	No.	Median	Mean	No.	Median	Mean
Aeronautical/Aerospace	5	\$34,840	\$35,194	5	\$34,840	\$35,194
Chemical	36	40,850	40,039	31	43,000	42,877
Electrical/Electronics	89	37,397	37,206	89	37,397	37,696
Engineering Technology	82	38,000	38,226	82	38,000	38,311
Industrial	94	36,516	35,843	93	36,856	36,449
Manufacturing	178	36,100	36,867	176	37,170	38,132
Mechanical	130	37,050	38,058	130	38,068	38,983
Metallurgical/Materials	15	38,400	39,548	15	41,142	42,365
Safety	8	39,996	39,189	7	41,100	39,623
Sanitary/Environmental/Pollution Control	6	38,958	38,213	5	44,520	40,978

SOURCE: Abbott Langer & Associates, *Compensation in Manufacturing*, 9th Edition, April 1989

TABLE 157

NUMBER, TOTAL ANNUAL BASE SALARY, AND TOTAL ANNUAL COMPENSATION OF ENGINEERS EMPLOYED IN MANUFACTURING BY TYPE OF PRODUCT MANUFACTURED, 1989

TYPE OF PRODUCT MANUFACTURED	BASE SALARY			TOTAL COMPENSATION		
	No.	Median	Mean	No.	Median	Mean
Aerospace/Textile Products/ Textile Mill Products	48	\$40,440	\$38,493	47	\$40,440	\$38,546
Business Equipment	13	35,800	34,299	13	35,800	34,299
Chemical/Pharmaceutical/Plastic/Rubber Products	99	39,194	38,906	92	41,190	40,388
Electrical/Electronics/Aerospace/Aircraft Products	121	38,520	38,110	114	39,410	39,105
Fabricated Metal Products	150	35,500	36,299	150	36,396	37,182
Food & Beverage Products	20	44,490	46,802	20	46,552	48,263
Furniture & Wood Products	30	29,560	32,369	33	29,560	33,257
Measuring & Controlling Devices	7	36,000	35,200	7	36,000	35,200
Paper Products/Printing/Publishing	14	40,467	41,924	14	42,850	43,691
Primary Metal Products (All)	124	38,000	38,473	124	38,000	39,411
Primary Metal Products (Ferrous)	14	38,406	39,449	14	43,643	42,974
Primary Metal Products (Non-Ferrous)	110	38,000	38,348	110	38,000	38,872

TABLE 158

NUMBER, TOTAL ANNUAL BASE SALARY, AND TOTAL ANNUAL COMPENSATION OF ENGINEERS EMPLOYED IN MANUFACTURING BY EDUCATION LEVEL, 1989

EDUCATION LEVEL	BASE SALARY			TOTAL COMPENSATION		
	No.	Median	Mean	No.	Median	Mean
Graduate Degree	52	\$45,100	\$46,164	51	\$46,840	\$47,225
B. S. in Engineering	317	37,847	37,715	308	38,430	38,802
Bachelor Degree (Non-Engineering)	47	38,000	38,948	45	39,973	40,144
A. A. (Two Year) Degree	57	34,507	34,134	54	35,760	34,949
Some College (No Degree)	138	38,000	36,361	138	38,000	36,732
No College	52	36,586	34,987	52	37,148	36,923

SOURCE: Abbott Langer & Associates, *Compensation in Manufacturing*, 9th Edition, April 1989

TABLE 159

NUMBER, TOTAL ANNUAL BASE SALARY, AND TOTAL ANNUAL COMPENSATION
OF ENGINEERS EMPLOYED IN MANUFACTURING BY STATE, 1989

STATE	BASE SALARY			TOTAL COMPENSATION		
	No.	Median	Mean	No.	Median	Mean
Alabama	17	\$34,200	\$35,414	17	\$34,200	\$35,414
California	21	44,902	45,119	21	45,800	45,855
Connecticut	51	39,200	39,573	51	41,700	40,220
Florida	28	30,100	30,300	28	30,100	30,300
Georgia	7	40,020	39,227	7	40,020	39,741
Idaho	8	40,604	43,098	8	40,604	43,098
Illinois	41	37,847	37,731	41	38,401	38,801
Iowa	21	40,036	39,945	21	40,900	40,901
Kansas	7	44,304	43,237	7	47,405	45,566
Kentucky	10	38,750	38,525	10	41,871	41,231
Massachusetts	13	37,000	37,348	13	39,740	39,464
Michigan	84	39,300	38,833	84	40,120	39,889
Minnesota	7	28,000	27,028	7	28,008	28,014
Mississippi	15	33,096	36,624	15	33,096	36,824
North Carolina	19	37,800	36,789	18	39,350	38,091
New Hampshire	8	35,229	36,755	1		
New Jersey	35	43,320	42,457	35	43,500	44,375
New York	25	34,079	35,813	25	35,412	37,406
Ohio	76	35,466	35,540	76	36,321	36,626
Pennsylvania	37	36,500	38,342	37	37,388	39,803
South Carolina	19	42,060	42,714	19	42,060	42,714
Tennessee	12	33,800	34,449	12	35,900	38,216
Texas	29	31,200	35,429	22	33,120	37,497
Utah	6	29,965	31,231	6	29,965	31,496
Virginia	6	31,890	34,908	6	31,890	35,575
Washington	6	34,692	37,961	6	35,840	38,378
Wisconsin	57	36,000	37,201	57	36,372	37,915

SOURCE: Abbott Langer & Associates, *Compensation in Manufacturing*, 9th Edition, April 1989

TABLE 160

NUMBER, TOTAL ANNUAL BASE SALARY, AND TOTAL ANNUAL COMPENSATION OF ENGINEERS EMPLOYED IN MANUFACTURING BY METROPOLITAN AREA, 1989

METROPOLITAN AREA	BASE SALARY			TOTAL COMPENSATION		
	No.	Median	Mean	No.	Median	Mean
Albany/Schnectady/Troy (NY) & Vicinity	8	\$30,014	\$30,882	8	\$30,065	\$31,762
Baltimore (MD) & Vicinity	8	30,300	31,638	8	30,300	31,638
Boston (MA) & Vicinity	13	37,000	37,348	13	39,740	39,464
Buffalo (NY) & Vicinity	12	34,745	34,355	12	35,555	36,216
Chicago (IL) & Vicinity	33	36,900	37,118	33	37,180	38,814
Cleveland (OH) & Vicinity	5	41,372	41,436	5	47,651	47,378
Columbus (OH) & Vicinity	13	38,400	37,403	13	38,400	37,403
Dallas/Ft. Worth (TX) & Vicinity	12	30,120	31,444	12	30,120	31,444
Dayton (OH) & Vicinity	37	33,280	34,159	37	33,280	34,823
Detroit (MI) & Vicinity	77	39,361	38,692	77	40,380	39,825
Hartford (CT) & Vicinity	13	39,200	39,347	13	42,000	41,347
Houston (TX) & Vicinity	10	41,024	42,627	10	41,024	44,762
Kansas City (MO/KS) & Vicinity	7	44,304	43,237	7	47,405	45,566
Los Angeles/San Diego (CA) & Vicinity	19	44,902	45,318	19	45,800	45,637
Memphis (TN/AR/MS) & Vicinity	11	33,096	33,633	11	33,096	33,633
Milwaukee (WI) & Vicinity	47	37,368	38,252	47	37,368	38,458
Nashville (TN) & Vicinity	11	32,000	34,035	11	35,600	38,145
New York (NY/NJ) & Vicinity	13	50,000	49,695	13	52,000	55,397
Orlando (FL) & Vicinity	26	30,100	30,288	26	30,100	30,288
Philadelphia (PA/NJ) & Vicinity	41	40,300	40,523	41	41,280	41,587
Salt Lake City/Ogden (UT) & Vicinity	6	29,965	31,231	6	29,965	31,496
Seattle/Everett (WA) & Vicinity	5	36,180	38,954	5	36,180	38,954
Toledo (OH/MI) & Vicinity	18	37,582	36,124	18	38,922	37,679

SOURCE: Abbott Langer & Associates, *Compensation in Manufacturing*, 9th Edition, April 1989

TABLE 161

**NUMBER, TOTAL ANNUAL BASE SALARY, AND TOTAL ANNUAL COMPENSATION OF
ENGINEERS EMPLOYED IN MANUFACTURING BY GEOGRAPHIC REGION, 1989**

REGION	BASE SALARY			TOTAL COMPENSATION		
	No.	Median	Mean	No.	Median	Mean
Northeastern States	169	\$38,220	\$39,040	162	\$40,203	\$40,599
Southern States	136	33,920	36,022	135	35,592	36,841
Midwestern States	261	37,397	37,281	261	37,752	38,350
North Central States	45	39,600	38,116	45	40,900	39,229
Southwestern States	32	33,120	36,112	25	36,764	38,427
Mountain States	22	35,598	39,435	22	40,589	39,844
Pacific States	27	40,539	43,529	27	40,539	44,193

TABLE 162

**NUMBER AND TOTAL ANNUAL BASE SALARY, AND TOTAL ANNUAL COMPENSATION OF
SELECTED MANAGERIAL PERSONNEL* EMPLOYED IN MANUFACTURING BY
OCCUPATIONAL TITLE, 1989**

OCCUPATIONAL TITLE	BASE SALARY			TOTAL COMPENSATION		
	No.	Median	Mean	No.	Median	Mean
Vice President-Manufacturing/ Production Engineering	41	\$62,400	\$69,349	40	\$72,000	\$77,852
Design Manager	42	45,742	44,536	40	45,992	46,678
Chief Manufacturing/Production Engineer	50	50,480	49,892	48	51,350	53,341
Chief Tool Engineer	16	36,951	37,113	15	37,102	36,515
Engineering Department Manager/Superintendent	89	48,612	50,076	88	52,500	53,025
Quality Control Manager	117	39,200	40,037	114	39,800	42,330
Research & Development Manager	41	55,648	52,521	40	56,350	56,438
Product Designer	54	31,100	33,086	52	31,200	33,859
Product ion Planner	115	28,223	30,205	112	29,481	31,402
Tool Designer	25	31,000	30,460	23	29,848	30,557
Cost Estimator	48	27,968	29,704	46	27,968	30,190
Chief Personnel/Industrial Relations Executive	65	47,800	53,106	62	48,270	59,950

*Excludes Foreman & General Foreman

SOURCE: Abbott Langer & Associates, *Compensation in Manufacturing*, 9th Edition, April 1989

TABLE 163

NUMBER, TOTAL ANNUAL BASE SALARY, AND TOTAL ANNUAL COMPENSATION OF ENGINEERS EMPLOYED IN MANUFACTURING BY TYPE OF ENGINEER, 1989

TYPE OF ENGINEER	BASE SALARY			TOTAL COMPENSATION		
	No.	Median	Mean	No.	Median	Mean
Industrial	88	\$36,516	\$35,896	88	\$42,983	\$44,271
Manufacturing	88	35,900	37,359	87	36,482	38,086
Materials	7	30,004	36,787	7	30,004	37,552
Mechanical	117	38,000	38,503	117	38,244	39,333
Methods and Systems	21	43,362	41,535	21	43,362	42,114
Plant	78	40,539	39,814	77	40,539	41,346
Process	55	35,760	35,979	53	36,900	37,053
Production	40	33,500	36,570	35	36,000	38,500
Quality Control	54	32,333	33,152	51	32,011	33,701
Research & Development	5	42,000	43,320	5	42,900	44,060
Safety Engineer	20	34,741	35,464	19	35,400	36,588
Sales	114	38,000	37,525	114	38,000	38,491
ALL ENGINEERS	767	38,000	37,798	752	38,000	38,837

SOURCE: Institute of Electrical and Electronics Engineers, Inc., *IEEE U.S. Membership Salary and Fringe Benefit Survey, 1989*, UH 0183-4.

TABLE 164

NUMBER AND MEDIAN ANNUAL INCOME OF IEEE ENGINEERS EMPLOYED FULL-TIME BY HIGHEST DEGREE EARNED, 1988

HIGHEST DEGREE EARNED	Number Reported	Median Income
Ph. D	723	\$62,400
MSEE	1,033	55,000
MA/MS	447	54,000
MBA	184	60,500
BSEE	1,680	46,700
BS	297	46,000
BA	48	55,000
BSET or BET	114	37,900
Two Year Degree	83	44,500

SOURCE: Institute of Electrical and Electronics Engineers, Inc., *IEEE U.S. Membership Salary and Fringe Benefit Survey, 1989*, UH 0183-4.

TABLE 165

NUMBER AND MEDIAN ANNUAL INCOME OF IEEE ENGINEERS EMPLOYED FULL-TIME IN AREA OF PRIMARY TECHNICAL COMPETENCE BY AGE, 1988

AGE	Number Reported	Median Income
20-24 Years	225	\$29,000
25-29 Years	732	36,600
30-34 Years	777	46,400
35-39 Years	654	53,500
40-44 Years	605	57,000
45-49 Years	566	62,500
50-54 Years	417	65,000
55-59 Years	331	65,000
60-64 Years	249	64,000
65-69 Years	60	60,000
70 and Older	12	47,300

SOURCE: Institute of Electrical and Electronics Engineers, Inc., IEEE U.S. Membership Salary and Fringe Benefit Survey, 1989, UHO 183-4.

TABLE 166

MEDIAN AND MEAN ANNUAL INCOME OF IEEE ENGINEERS EMPLOYED FULL-TIME IN AREA OF PRIMARY TECHNICAL COMPETENCE BY YEARS OF EXPERIENCE AND SEX, 1988

YEARS OF EXPERIENCE	NUMBER REPORTED	MEDIAN INCOME		
		TOTAL	MEN	WOMEN
Under 3 Years	501	\$30,500	\$30,500	\$30,000
3-4 Years	410	36,000	36,000	36,400
5-6 Years	359	41,000	41,500	39,500
7-9 Years	471	47,500	48,000	45,800
10-14 Years	698	53,000	53,000	44,000
15-19 Years	567	57,600	57,900	
20-24 Years	557	63,000	63,000	
25-29 Years	451	64,000	64,000	
30-34 Years	319	67,000	67,000	
35-39 Years	228	64,000	64,000	
40-44 Years	69	62,700	62,700	
45 and More	19	83,000	83,000	

NOTE: Blanks indicate too few respondents for data to be meaningful.

TABLE 167

NUMBER AND MEDIAN ANNUAL INCOME OF IEEE ENGINEERS EMPLOYED FULL-TIME IN AREA OF PRIMARY TECHNICAL COMPETENCE BY LEVEL OF PROFESSIONAL RESPONSIBILITY, 1988

PROFESSIONAL RESPONSIBILITY LEVEL	Number Reported	Median Income
Engineer 1 (Equivalent To GS-5)	104	\$25,600
Engineer 2 (Equivalent To GS-7)	248	31,200
Engineer 3 (Equivalent To GS-9 or Academic Instructor)	418	36,000
Engineer 4 (Equivalent To GS-11 or Assistant Professor)	766	43,000
Engineer 5 (Equivalent To GS-12 or Associate Professor)	792	51,000
Engineer 6 (Equivalent To GS-13 or Full Professor)	862	57,600
Engineer 7 (Equivalent To GS-14 or Distinguished Professor or Academic Department Head)	571	63,000
Engineer 8 (Equivalent To GS-15 or Academic Department Head or Dean)	410	71,200
Engineer 9 (Greater than GS-15 or Academic Dean or Higher)	181	89,000

Source: Electronics Engineers, Inc., IEEE U.S. Membership Salary and Fringe Benefits Survey, 1989, UH0183-4.

TABLE 168

**NUMBER AND MEDIAN ANNUAL INCOME OF IEEE ENGINEERS EMPLOYED
FULL-TIME IN AREA OF PRIMARY TECHNICAL COMPETENCE BY INDUSTRY
OR SERVICE OF EMPLOYER, 1988**

INDUSTRY OR SERVICE OF EMPLOYER	Number Reported	Median Income
Aerospace & Defense	701	\$54,700
Automotive Industry Product	34	41,700
Basic Research	29	50,000
Broadcast Industry	21	52,000
Communications	78	61,600
Communications Companies (Utilities)	126	53,000
Communications Systems Equipment & Supplies	252	56,200
Computers	141	53,000
Computer Components or Subassemblies	38	52,400
Hardware Mainframes	170	53,700
Hardware-Micros, Minis and/or PCs	124	54,000
Computer Peripheral Equipment	55	48,000
Consulting Engineers	216	56,100
Consumer Electronics	41	50,000
Data Processing Systems Integration	40	55,500
Design and Development Engineering	45	50,500
Educational Services	132	49,200
Educator, Teacher, Trainer	28	52,500
Electric Machinery	29	64,000
Electrical Companies & Systems	77	53,400
Electronic Components & Accessories	161	56,000
Electronic Equipment, Navigation Systems	116	59,000
Scientific Instrumentation, Test Equipment	91	56,200
Engineering Systems Planning & Design	46	58,100
Government, Federal	415	46,000
Government, State or Local	42	49,700
Independent Research Lab & Consultant	96	60,300
Industrial Electronic Company	51	53,200
Industrial Controls, Systems or Equipment	117	45,000
Manufacturing and Production	176	48,000
Marketing/Sales	19	55,000
Medical & Health Services	36	42,800
Medical Electronics	54	47,400
Office or Business Machines	25	50,600
Paper & Allied Industry/Products	14	49,900
Petroleum & Chemical Industry/Products	61	55,500
Power System Equipment	34	47,700
Power Generation, Transmission & Distribution	382	50,000
Primary Metal Products Systems	13	49,000
School, University	145	55,000
Transportation Equipment & Services	22	41,700

SOURCE: Institute of Electrical and Electronics Engineers, Inc., *IEEE U.S. Membership Salary and Fringe Benefit Survey, 1989*, UH0183-4.

TABLE 169

NUMBER AND MEDIAN ANNUAL INCOME OF IEEE ENGINEERS EMPLOYED FULL-TIME IN AREA OF PRIMARY AREA OF TECHNICAL COMPETENCE, 1988

PRIMARY AREA OF TECHNICAL COMPETENCE	Number Reported	Median Income
Acoustics, Speech & Signal Processing	119	\$53,600
Aerospace & Electronic Systems	210	57,200
Antennas & Propagation	68	53,000
Broadcast Technology	21	43,400
Circuits & Systems	271	48,000
Communications	460	55,100
Components, Hybrids	73	52,000
Computers	451	47,000
Consumer Electronics	29	55,000
Control Systems	136	45,000
Education	23	49,000
Electromagnetic Compatibility	45	52,400
Electron Devices	124	60,000
Engineering Management	180	65,000
Engineering in Medicine & Biology	74	49,000
Geoscience & Remote Sensing	15	52,000
Industrial Electronics	31	46,000
Industry Applications	197	50,000
Instrumentation & Measurement	91	48,000
Laser and Electro-Optics	105	57,600
Magnetics	39	57,000
Microwave Theory & Techniques	131	54,000
Nuclear and Plasma Sciences	31	56,000
Oceanic Engineering	14	52,500
Power Engineering	660	50,900
Reliability	40	50,900
Robotics and Automation	27	50,000
Systems and Society	12	61,500
Ultrasonics, Ferroelectric & Frequency Control	14	71,500
Vehicular Technology	20	67,000

TOTAL 170

NUMBER AND MEDIAN INCOME OF IEEE ENGINEERS EMPLOYED FULL-TIME IN AREA OF PRIMARY TECHNICAL COMPETENCE
BY SELECTED METROPOLITAN AREAS, 1988

METROPOLITAN AREA	NUMBER REPORTED	MEDIAN INCOME	METROPOLITAN AREA	NUMBER REPORTED	MEDIAN INCOME
Albany, NY Area	28	\$54,248	Los Angeles, CA Area	342	\$56,000
Albuquerque, NM Area	33	52,000	Louisville, KY Area	11	43,600
Atlanta, GA Area	69	52,496	Madison, WI Area	11	56,896
Augusta, GA-SC Area	10	37,748	Manchester, NH Area	28	52,660
Austin, TX Area	43	50,500	Miami, FL Area	40	49,500
Baltimore, MD Area	92	54,500	Milwaukee, WI Area	28	44,650
Binghamton, NY Area	14	47,500	Minneapolis, MN Area	94	49,000
Birmingham/Huntsville, AL Area	69	50,000	New London, CT Area	13	40,000
Boston, MA Area	277	56,000	New Orleans, LA Area	29	49,000
Buffalo, NY Area	16	43,800	New York, NY Area	465	58,000
Burlington, VT Area	10	44,500	Norfolk, VA Area	21	46,200
Charlotte, NC Area	14	42,252	Oklahoma City, OK Area	14	51,000
Chattanooga, TN Area	10	54,148	Omaha, NE Area	12	41,600
Chicago, IL Area	108	47,000	Orlando, FL Area	49	46,300
Cincinnati, OH Area	15	49,221	Philadelphia, PA Area	142	56,516
Cleveland, OH Area	39	54,000	Phoenix, AZ Area	76	48,000
Colorado Springs, CO Area	25	57,544	Pittsburg, PA Area	43	49,000
Columbus, OH Area	20	48,740	Portland, OR Area	59	48,114
Dallas-Fort Worth, TX Area	121	46,500	Poughkeepsie, NY Area	11	60,000
Dayton, OH Area	34	48,000	Providence, RI Area	46	55,500
Denver, CO Area	76	51,900	Raleigh, NC Area	51	50,000
Detroit, MI Area	64	49,728	Roanoke, VA Area	11	58,000
Grand Rapids, MI Area	12	55,648	Rochester, NY Area	41	46,448
Greensboro, NC Area	11	58,000	Sacramento, CA Area	12	51,500
Greenville, SC Area	14	45,000	Salt Lake City, UT Area	23	42,896
Hartford, CT Area	40	55,820	San Antonio, TX Area	15	48,000
Honolulu, HI Area	15	48,600	San Diego, CA Area	66	54,500
Houston, TX Area	72	51,000	San Francisco, CA Area	389	59,000
Indianapolis, IN Area	25	45,800	Seattle, WA Area	107	49,600
Jacksonville, FL Area	10	40,448	St. Louis, MO Area	51	52,000
Johnson City, TN Area	17	47,136	Syracuse, NY Area	13	54,000
Kansas City, KS Area	18	48,000	Tampa, FL Area	28	45,248
Knoxville, TN Area	11	46,696	Tulsa, OK Area	10	49,348
Little Rock, AR Area	12	47,320	Washington, DC Area	338	56,100

SALARIES OF TECHNICIANS

Physical science technicians employed in research and development receive higher median salaries than do technicians in any other discipline, according to the third annual survey of **COMPENSATION AND BENEFITS IN RESEARCH AND DEVELOPMENT** by Abbott, Langer & Associates. Physical science technicians had a median annual salary of \$26,780, compared to \$25,000 for engineering technicians, and \$19,700 for life science technicians. Within the engineering technician disciplines, materials engineering technicians reported the highest median annual salaries - \$27,859 - and chemical engineering technicians the lowest - \$21,000. Within the physical sciences technicians group, those in space sciences earned the least - \$14,040, while those in computer science reported the highest median salary - \$17,834 (Table 171).

Level of education affects salaries of technicians as shown in Table 172. Median salaries ranged from a high of \$25,624 for those with a master's degree to a low of \$20,000 for those with a bachelor's. As expected, salaries of technicians increased with years of experience. Those technicians with less than one year of experience earned \$18,000 compared to technicians with 25-29 years of experience who report salaries of \$32,700 (Table 173).

Geographically, technicians working in the Southern states reported the highest median salary - \$25,050, followed very closely by those in the Midwestern and Mountain states, both at \$25,000. Technicians in the Southwestern states reported the lowest salary - \$18,575 (Table 174). Illinois, followed by California, pays the highest salaries to technicians while Florida pays the least as shown in Table 175. Salaries by selected metropolitan area are shown in Table 176.

Technicians employed in manufacturing organizations report higher median salaries (\$24,752) than those employed in non-manufacturing organizations - \$21,223 (Table 177). By work function, those technicians employed in development earn the highest median salary - \$27,000, while those employed in applied research earn the least - \$18,726 (Table 178).

In contrast to all technicians, engineering technicians report the highest median salary working in non-manufacturing organizations (Table 179) and working in the Pacific states (Table 181). As was true for all technicians, engineering technicians employed in development report the highest median salary (Table 180). Salaries of engineering technicians by years of experience and level of education are shown in Tables 182 and 183.

SOURCE: Abbott, Langer & Associates, *Compensation and Benefits in Research and Development*, 1989

TABLE 171

NUMBER, MEDIAN AND MEAN ANNUAL SALARIES OF TECHNICIANS BY DISCIPLINE, 1988

DISCIPLINE	NUMBER	SALARY	
		Median	Mean
ALL ENGINEERING	396	\$25,000	\$25,349
Chemical Engineering	47	21,000	22,290
Electrical / Electronics Eng.	201	27,000	26,269
Engineering Technology	75	24,679	25,000
Materials Engineering	6	27,859	27,426
Mechanical Engineering	46	24,500	24,538
ALL LIFE SCIENCES	359	19,700	20,108
Agriculture	41	15,923	17,192
Biochemistry	98	20,000	20,246
Biology	122	19,424	20,650
Psychology	5	22,056	22,586
ALL PHYSICAL SCIENCES	150	26,780	26,535
Chemistry	111	27,025	27,598
Space Sciences	6	14,040	15,773
Physics	25	26,780	25,910
Computer Science	37	27,834	27,086

TABLE 172

NUMBER, MEDIAN AND MEAN ANNUAL SALARIES OF TECHNICIANS BY LEVEL OF EDUCATION, 1988

LEVEL OF EDUCATION	NUMBER	SALARY	
		Median	Mean
No College	199	\$21,549	\$22,385
Some College, No Degree	267	24,000	24,543
A.A. (2 - Year) Degree	202	25,000	25,292
Bachelor's	470	20,000	21,894
Master's	113	25,624	24,760
Doctorate	6	23,436	25,612

SOURCE: Abbott, Langer & Associates, *Compensation and Benefits in Research and Development, 1989*

TABLE 173

**NUMBER, MEDIAN AND MEAN ANNUAL SALARIES OF
TECHNICIANS BY YEARS OF EXPERIENCE, 1988**

YEARS OF EXPERIENCE	NUMBER	SALARY	
		Median	Mean
Under One Year	131	\$18,000	\$19,266
One or Two Years	240	18,455	19,643
Three or Four Years	301	20,445	23,234
Five - Nine Years	319	25,000	24,391
10 - 14 Years	137	25,220	26,525
15 - 19 Years	55	27,420	26,392
20 - 24 Years	37	31,552	31,334
25 - 29 Years	17	32,700	34,085
30 Years or More	8	30,600	32,179

TABLE 174

**NUMBER, MEDIAN AND MEAN ANNUAL SALARIES OF
TECHNICIANS BY GEOGRAPHIC REGION, 1988**

GEOGRAPHIC REGION	NUMBER	SALARY	
		Median	Mean
Northeastern States	254	\$20,000	\$22,257
Southern States	198	25,050	24,970
Midwestern States	284	25,000	25,044
North Central States	41	18,970	19,543
Southwestern States	134	18,575	18,820
Mountain States	99	25,000	22,598
Pacific States	325	23,000	23,986

TABLE 175

**NUMBER, MEDIAN AND MEAN ANNUAL SALARIES OF
TECHNICIANS BY SELECTED STATES, 1988**

STATE	NUMBER	SALARY	
		Median	Mean
California	82	\$32,006	\$27,956
Connecticut	42	22,324	21,719
Florida	6	13,500	15,627
Georgia	7	19,000	20,143
Idaho	65	25,000	24,158
Illinois	69	35,000	29,675
Indiana	6	18,250	18,750
Kansas	7	15,600	15,649
Maryland	120	27,276	27,257
Massachusetts	52	20,000	21,596
Michigan	58	25,710	24,797
Minnesota	17	20,946	20,720
Nebraska	14	18,970	19,306
New Jersey	9	18,000	18,656
New York	82	21,000	22,585
North Carolina	14	17,500	17,450
Ohio	79	28,356	27,642
Oklahoma	72	18,978	19,025
Oregon	121	20,841	22,608
Pennsylvania	68	21,500	23,076
Tennessee	5	23,475	23,645
Texas	62	16,211	18,581
Utah	29	19,760	19,807
Virginia	38	25,000	25,176
Washington	122	22,050	22,685
Wisconsin	72	18,000	18,480

SOURCE: Abbott, Langer & Associates, *Compensation and Benefits in Research and Development, 1989*

TABLE 176

NUMBER, MEDIAN AND MEAN ANNUAL SALARIES OF TECHNICIANS
BY METROPOLITAN AREA, 1988

METROPOLITAN AREA	Number	SALARY	
		Median	Mean
Albany/Schenectady/ Troy (NY) & Vicinity	5	\$21,000	\$21,000
Atlanta (GA) & Vicinity	7	19,000	20,143
Baltimore (MD) & Vicinity	58	27,170	26,907
Boston (MA) & Vicinity	52	20,000	21,596
Buffalo (NY) & Vicinity	5	26,000	26,800
Chicago (IL) & Vicinity	25	24,737	23,440
Cincinnati (OH/KY/IN) & Vicinity	17	24,003	23,767
Cleveland (OH) & Vicinity	49	31,680	31,000
Columbus (OH) & Vicinity	5	22,000	21,600
Dallas/Ft. Worth (TX) & Vicinity	8	23,140	22,051
Dayton (OH) & Vicinity	8	17,420	19,080
Detroit (MI) & Vicinity	7	20,000	18,887
Hartford (CT) & Vicinity	42	22,324	21,719
Houston (TX) & Vicinity	11	20,000	20,979
Los Angeles/San Diego (CA) & Vicinity	60	32,013	28,341
Milwaukee (WI) & Vicinity	30	17,711	18,794
Minneapolis/St Paul (MN/WI) & Vicinity	17	20,946	20,720
New York City (NY/NJ) & Vicinity	48	22,096	22,448
Norfolk/Virginia Beach/ Portsmouth (VA/NC) & Vicinity	25	20,000	20,200
Oklahoma City (OK) & Vicinity	72	18,978	19,025
Philadelphia (PA/NJ) & Vicinity	9	18,450	19,294
Pittsburgh (PA) & Vicinity	6	17,340	17,498
Portland (OR) & Vicinity	117	20,841	22,736
Salt Lake City/Ogden (UT) & Vicinity	15	22,000	22,940
San Francisco/Oakland (CA) & Vicinity	12	19,686	21,084
Seattle/Everett (WA) & Vicinity	95	20,100	21,371
Washington (DC/MD/VA) & Vicinity	75	27,356	28,689

SOURCE: Abbott, Langer & Associates, *Compensation and Benefits in Research and Development*, 1989

TABLE 177

**NUMBER, MEDIAN AND MEAN ANNUAL SALARIES OF
TECHNICIANS BY TYPE OF EMPLOYER, 1988**

TYPE OF EMPLOYER	NUMBER	SALARY	
		Median	Mean
ALL MFG. ORGANIZATIONS	553	\$24,752	\$23,926
Aerospace / Aircraft / Electrical / Electronics Manufacturers	146	25,000	26,555
Chemical / Pharmaceutical / Plastics / Rubber Mfg.	222	22,000	22,282
Fabricated Metal Products Mfg.	20	19,170	20,799
Food, Beverage & Tobacco Products Manufacturers	27	18,000	19,862
Machinery & Heavy Equip Mfg.	54	31,668	30,889
Measuring & Controlling Devices Manufacturers	10	22,860	22,916
Medical & Scientific Equipment Manufacturers	26	19,100	20,613
ALL NON-MANUFACTURING ORGANIZATIONS	782	21,223	22,806
Educational Institutions	115	24,000	24,953
Contract Research Centers	184	23,421	23,885

TABLE 178

**NUMBER, MEDIAN AND MEAN ANNUAL SALARIES OF TECHNICIANS
BY WORK FUNCTION, 1988**

WORK FUNCTION	Number	SALARY	
		Median	Mean
Pure Research	231	\$19,240	\$21,825
Applied Research	159	18,726	19,972
Development	289	27,000	25,832
Research & Development	640	23,604	23,531

SOURCE: Abbott, Langer & Associates, *Compensation and Benefits in Research and Development*, 1989

TABLE 179

NUMBER, MEDIAN AND MEAN ANNUAL SALARIES OF ENGINEERING
TECHNICIANS BY TYPE OF EMPLOYER, 1988

TYPE OF EMPLOYER	Number	SALARY	
		Median	Mean
All Manufacturing Organizations	260	\$25,000	\$24,879
Aerospace/Aircraft/ Electrical/Electronics Manufacturers	140	25,000	26,672
Chemical/Pharma- ceutical/Plastics/ Rubber Mfg.	43	22,002	22,284
Fabricated Metal Products Mfg.	7	13,200	14,709
Machinery & Heavy Equipment Mfg.	20	28,524	28,208
Measuring & Controlling Devices Mfg.	8	28,000	26,045
Medical & Scientific Equipment Mfg.	20	19,300	20,305
All Non-Mfg. Org.	136	26,948	26,248
Educational Institutions	9	26,000	26,603
Contract Research Centers	15	28,080	26,820

TABLE 180

NUMBER, MEDIAN AND MEAN ANNUAL SALARIES OF ENGINEERING
TECHNICIANS BY WORK FUNCTION, 1988

WORK FUNCTION	Number	SALARY	
		Median	Mean
Applied Research	20	\$24,980	\$27,808
Development	124	29,010	27,115
Research & Development	242	25,000	24,366

TABLE 181

**NUMBER, MEDIAN AND MEAN ANNUAL SALARIES OF ENGINEERING
TECHNICIANS BY GEOGRAPHIC REGION, 1988**

GEOGRAPHIC REGION	Number	SALARY	
		Median	Mean
Northeastern States	81	\$23,800	\$23,866
Southern States	94	27,356	26,395
Midwestern States	49	26,436	25,149
North Central States	26	21,000	20,965
Southwestern States	14	22,494	22,767
Mountain States	80	25,000	24,182
Pacific States	52	32,013	30,639

TABLE 182

**NUMBER, MEDIAN AND MEAN ANNUAL SALARIES OF ENGINEERING
TECHNICIANS BY YEARS OF EXPERIENCE, 1988**

YEARS OF EXPERIENCE	Number	SALARY	
		Median	Mean
Under One Year	34	\$21,000	\$23,734
One or Two Years	50	19,064	21,233
Three or Four Years	40	22,432	22,662
Five to Nine Years	173	25,000	25,595
10 - 14 Years	59	25,220	27,710
15-19 Years	16	28,170	28,595
20 - 24 Years	14	31,552	32,475
25-29 Years	6	35,330	37,349

TABLE 183

**NUMBER, MEDIAN AND MEAN ANNUAL SALARIES OF ENGINEERING
TECHNICIANS BY LEVEL OF EDUCATION, 1988**

LEVEL OF EDUCATION	Number	SALARY	
		Median	Mean
No College	92	\$23,797	\$24,942
Some College, No Degree	75	22,600	24,000
A.A. (2-Year) Degree	169	25,000	25,906
Bachelor's	46	27,846	26,766
Master's	8	29,574	28,532

FEDERAL SALARIES

On January 1, 1990, more than 1.2 million federal workers received a 3.6% salary increase. The new federal salary scale raises salaries from a base of \$10,581 for the beginning step of GS-1 to \$78,200, the new Executive Level 5 top. Table 184 presents the white-collar salary schedule effective as of January 1, 1990.

Table 185 presents the number, median grade and average salary of federal white-collar workers by sex in selected occupations for all geographical areas of the United States as of September 30, 1987. Women continue to have lower average salaries in almost every occupational series. In the engineering and architecture job series, women's salaries as a percentage of men's ranged from a high of 94.6 in engineering drafting to a low of 68.5 in mining engineering. However, there were only 17 women employed as mining engineers as of September 30, 1987. In the engineering categories with significant numbers of women, their salaries as a percentage of men's ranged between 70 and 80.

In the physical sciences, the highest average salary was reported in the astronomy and space science occupations - \$50,614, where women earned 84.2% of what men did. As expected, the lowest salaries were reported by technicians in this occupational series. In the life sciences, the highest salaries were reported by workers in agricultural extension - \$59,492.

In the health sciences, highest salaries were reported by medical and dental officers - \$61,719 and \$60,312 respectively. Although women dominated in many of the health science occupations, only in nursing and medical record technician jobs do women report slightly higher average salaries.

Table 186 presents similar information for September 30, 1988 by sex and minority status. Overall, although minorities report lower salaries than do males in the same job category, there is a wider salary disparity between salaries paid to men and women than to those paid to minorities and majorities.

The U. S. Department of Labor in its NATIONAL SURVEY OF PROFESSIONAL, ADMINISTRATIVE, TECHNICAL AND CLERICAL PAY collects data on salaries paid in private industry. Table 187 compares that data for selected occupations and levels of responsibility with salaries paid to federal workers as of March 1988.

Salaries of doctoral scientists and engineers employed by the federal government are compared for 1983 through 1987 in Table 188. These data are published by the National Science Foundation in its CHARACTERISTICS OF DOCTORAL SCIENTISTS AND ENGINEERS IN THE UNITED STATES, 1987. In 1987, doctoral scientists and engineers working in the federal government had a median salary of \$50,700. Highest median salary of federal Ph.D. scientists and engineers in 1987 was reported by atmospheric scientists at \$58,200.

The American Chemical Society in its SALARIES 1989 - An Analysis of the American Chemical Society's 1989 Survey of Salaries and Employment reports salaries of chemists employed in the federal government. Bachelor's level chemists had a median salary of \$35,000, compared to \$38,020 for master's level chemists and \$53,400 for Ph.D.s in chemistry (Table 189).

SOURCE: U.S. Office of Personnel Management.

TABLE 184

ANNUAL SALARIES OF FEDERAL WORKERS UNDER THE GENERAL SCHEDULE BY GRADE AND STEP
LEVELS, JANUARY 1, 1990

GRADE	STEP 1	2	3	4	5	6	7	8	9	10
GS-1	\$10,581	\$10,935	\$11,286	\$11,637	\$11,990	\$12,197	\$12,544	\$12,893	\$12,910	\$13,232
GS-2	11,897	12,180	12,574	12,910	13,053	13,437	13,821	14,205	14,589	14,973
GS-3	12,982	13,415	13,848	14,281	14,714	15,147	15,580	16,013	16,446	16,879
GS-4	14,573	15,059	15,545	16,031	16,517	17,003	17,489	17,975	18,461	18,947
GS-5	16,305	16,849	17,393	17,937	18,481	19,025	19,569	20,113	20,657	21,201
GS-6	18,174	18,780	19,386	19,992	20,598	21,204	21,810	22,416	23,022	23,628
GS-7	20,195	20,868	21,541	22,214	22,887	23,560	24,233	24,906	25,579	26,252
GS-8	22,367	23,113	23,859	24,605	25,351	26,097	26,843	27,589	28,335	29,081
GS-9	24,705	25,529	26,353	27,177	28,001	28,825	29,649	30,473	31,297	32,121
GS-10	27,206	28,113	29,020	29,927	30,834	31,741	32,648	33,555	34,462	35,369
GS-11	29,891	30,887	31,883	32,879	33,875	34,871	35,867	36,863	37,859	38,855
GS-12	35,825	37,019	38,213	39,407	40,601	41,795	42,989	44,183	45,377	46,571
GS-13	42,601	44,021	45,441	46,861	48,281	49,701	51,121	52,541	53,961	55,381
GS-14	50,342	52,020	53,698	55,376	57,054	58,732	60,410	62,088	63,766	65,444
GS-15	59,216	61,190	63,164	65,138	67,112	69,086	71,060	73,034	75,008	76,982
GS-16	69,451	71,766	74,081	76,396	78,190	79,438*	81,708*	83,978*	85,470*	
GS-17	79,762*	82,420*	85,078*	85,470*	85,500*					
GS-18	86,682*									

*The rate of basic pay payable to employees at these rates is limited to the rate for level V of the Executive Schedule, which would be \$78,200.

SOURCE: Office of Personnel Management, *Occupations of Federal White-Collar and Blue-Collar Workers*, September 30, 1987

TABLE 185

NUMBER, MEDIAN GRADE AND AVERAGE SALARY OF FEDERAL CIVILIAN WHITE-COLLAR WORKERS BY SEX,
ALL AREAS, SEPTEMBER 30, 1987

OCCUPATION SERIES AND GROUP	TOTAL			MALE		FEMALE		
	Number	Median Grade	Average Salary	Number	Average Salary	Number	Average Salary	Women's Salary as % of Men's
General Engineering	20,296	13.0	\$47,190	19,263	\$47,809	1,033	\$35,638	74.5
Engineering Technician	26,193	9.0	28,084	23,746	28,761	2,447	21,515	74.8
Safety Engineering	599	12.0	41,033	561	41,668	38	31,655	76.0
Fire Prevention Engineering	137	13.0	41,712	134	41,811	3	37,306	89.2
Materials Engineering	1,201	12.0	42,101	1,042	43,592	159	32,335	74.2
Landscape Architecture	581	12.0	39,016	503	40,033	78	32,456	81.1
Architecture	1,950	12.0	38,524	1,735	39,093	215	33,927	86.8
Construction Control	4,214	9.0	26,297	4,127	26,329	87	24,792	94.2
Civil Engineering	16,332	12.0	40,332	15,269	40,916	1,063	31,950	78.1
Surveying Technician	1,511	5.0	17,739	1,414	17,965	97	14,434	80.4
Engineering Drafting	1,441	5.0	18,538	1,124	18,763	317	17,741	94.6
Environmental Engineering	2,838	12.0	38,022	2,306	39,663	532	30,908	77.9
Construction Analyst	530	11.0	34,656	513	34,779	17	30,948	89.0
Mechanical Engineering	14,156	12.0	37,658	13,351	38,043	805	31,269	82.2
Nuclear Engineering	3178	12.0	43,452	3,010	43,944	168	34,629	78.8
Electrical Engineering	5,687	12.0	39,765	5,381	40,229	306	31,605	78.6
Electronics Engineering	27,136	12.0	40,916	25,533	41,472	1,603	32,071	77.3
Electronics Technician	20,911	11.0	32,958	20,202	33,241	709	24,882	74.9
Biomedical Engineering	277	12.0	36,154	227	37,643	50	29,394	78.1
Aerospace Engineering	8,744	13.0	44,488	8,196	45,232	548	33,366	73.8
Naval Architecture	1,299	12.0	41,753	1,208	42,358	91	33,729	79.6
Ship Surveying	138	12.0	38,256	138	38,256			
Mining Engineering	445	12.0	40,659	428	41,151	17	28,266	68.7
Petroleum Engineering	471	13.0	42,865	436	43,674	35	32,782	75.1
Agricultural Engineering	401	11.0	40,258	389	40,588	12	29,548	72.8

NOTE: Median Grade and Average Salary are based on those employees reported by general schedule grades or equivalent salary level.

TABLE 185 (Continued)

NUMBER, MEDIAN GRADE AND AVERAGE SALARY OF FEDERAL CIVILIAN WHITE-COLLAR WORKERS BY SEX,
ALL AREAS, SEPTEMBER 30, 1987

OCCUPATION SERIES AND GROUP	TOTAL			MALE		FEMALE		
	Number	Median Grade	Average Salary	Number	Average Salary	Number	Average Salary	Women's Salary as % of Men's
Ceramic Engineering	68	13.0	\$43,977	57	\$46,115	11	\$32,895	71.3
Chemical Engineering	1,791	12.0	39,168	1,494	40,480	297	32,570	80.5
Welding Engineering	98	12.0	39,407	95	39,548	3	34,952	88.4
Industrial Engineering Tech.	2,674	9.0	28,632	2,323	29,229	351	24,679	84.4
Industrial Engineering	3,160	12.0	36,606	2,774	37,508	386	30,123	80.3
Engineering & Architecture Student Trainee	1,312	4.0	14,392	998	14,526	314	13,969	96.2
General Physical Science	5,561	13.0	48,340	4,797	50,347	764	35,739	71.0
Health Physics	602	13.0	42,329	511	43,601	91	35,187	80.7
Physics	3,860	13.0	48,026	3,660	48,552	200	38,393	79.1
Physical Science Technician	4,236	7.0	23,415	3,053	24,752	1,183	19,965	80.7
Geophysics	620	13.0	42,488	569	43,481	51	31,406	72.2
Hydrology	2,290	12.0	37,860	2,033	38,984	257	28,970	74.3
Hydrologic Technician	1,562	8.0	22,846	1,337	23,511	225	18,893	80.4
Chemistry	7,523	12.0	40,027	5,838	41,837	1,685	33,759	80.7
Metallurgy	376	13.0	45,044	355	45,596	21	35,719	78.3
Astronomy & Space Science	478	14.0	50,614	446	51,155	32	43,066	84.2
Meteorology	2,250	13.0	40,777	2,114	41,297	136	32,710	79.2
Meteorological Technician	2,005	10.0	28,565	1,875	28,938	130	23,193	80.2
Geology	2,531	12.0	39,622	2,146	40,994	385	31,978	78.0
Oceanography	760	12.0	41,662	666	43,003	94	32,162	74.8
Navigational Information	414	11.0	32,876	346	33,273	68	30,856	92.7
Cartography	4,475	11.0	32,981	3,634	33,706	841	29,850	88.6
Cartographic Technician	1,728	7.0	22,939	1,172	24,270	555	20,133	83.0
Geodesy	366	12.0	37,105	310	37,807	56	33,216	87.9
Food Technology	241	12.0	35,843	166	39,226	75	28,355	72.3
Forest Prod. Technology	77	13.0	47,287	73	47,731	4	39,196	82.1
Gen. Fish & Wildlife Admin.	177	14.0	53,608	172	53,662	5	51,752	96.4

NOTE: Median Grade and Average Salary are based on those employees reported by general schedule grades or equivalent salary level.

SOURCE: Office of Personnel Management, *Occupations of Federal White-Collar and Blue-Collar Workers*, September 30, 1987

TABLE 185 (Continued)

NUMBER, MEDIAN GRADE AND AVERAGE SALARY OF FEDERAL CIVILIAN WHITE-COLLAR WORKERS BY SEX,
ALL AREAS, SEPTEMBER 30, 1987

OCCUPATION SERIES AND GROUP	TOTAL			MALE		FEMALE		
	Number	Median Grade	Average Salary	Number	Average Salary	Number	Average Salary	Women's Salary as % of Men's
General Biological Science	5,202	12.0	\$37,817	3,991	\$40,011	1,211	\$30,584	76.4
Microbiology	1,947	12.0	37,241	1,199	40,389	748	32,196	79.7
Biological Technician	5,949	6.0	19,350	3,499	20,066	2,450	18,327	91.3
Pharmacology	423	13.0	45,008	328	46,208	95	40,865	88.4
Agricultural Extension	55	14.0	59,492	41	60,833	14	55,566	91.3
Ecology	357	12.0	37,428	290	39,111	67	30,144	77.1
Zoology	118	13.0	45,856	99	47,856	19	35,435	74.1
Physiology	498	13.0	41,733	393	43,359	105	35,648	82.2
Entomology	733	13.0	43,069	679	43,819	54	33,646	76.8
Toxicology	49	13.0	46,842	35	47,825	14	44,383	92.8
Plant Protection Technician	98	4.0	15,552	75	16,030	23	13,993	87.3
Botany	170	12.0	36,763	120	39,318	50	30,631	77.9
Plant Pathology	320	13.0	43,589	285	45,140	35	30,958	68.6
Plant Physiology	334	13.0	42,046	283	43,958	51	31,437	71.5
Plant Prot. & Quarantine	1,235	9.0	28,072	1,031	28,883	204	23,976	83.0
Horticulture	110	11.0	35,280	88	37,371	22	26,916	72.0
Genetics	326	13.0	44,201	266	46,374	60	34,566	74.5
Range Conservation	1,233	11.0	29,590	1,106	30,204	127	24,244	80.3
Range Technician	1,066	5.0	16,514	917	16,757	149	15,015	89.6
Soil Conservation	4,833	11.0	30,076	4,416	30,802	417	22,388	72.7
Soil Conservation Technician	2,080	6.0	18,817	1,908	19,108	172	15,586	81.6
Irrigation Systems Operator	148	5.0	18,760	144	18,729	4	19,843	106.0
Forestry	6,115	11.0	34,193	5,532	35,106	583	25,529	72.7
Forestry Technician	10,490	5.0	18,244	8,884	18,859	1,606	14,843	78.7
Soil Science	1,731	11.0	33,906	1,639	34,383	92	25,419	73.9
Agronomy	317	12.0	37,758	308	38,051	9	27,752	72.9
Agriculture Management	3,844	11.0	29,500	3,406	30,078	438	25,001	83.1
Fishery Biology	1,391	11.0	34,610	1,245	35,650	146	25,747	72.2
Wildlife Refuge Management	575	11.0	31,148	525	31,990	50	22,311	69.7
Wildlife Biology	1,588	11.0	32,698	1,361	33,819	227	25,983	76.8
Animal Science	115	13.0	43,300	104	45,072	11	26,545	58.9
Home Economics	52	11.0	33,858	6	42,547	46	32,725	76.9
Biological Science Student Trainee	170	4.0	13,522	100	13,607	70	13,402	98.5

NOTE: Median Grade and Average Salary are based on those employees reported by general schedule grades or equivalent salary level.

TABLE 185 (Continued)

NUMBER, MEDIAN GRADE AND AVERAGE SALARY OF FEDERAL CIVILIAN WHITE-COLLAR WORKERS BY SEX,
ALL AREAS, SEPTEMBER 30, 1987

OCCUPATION SERIES AND GROUP	TOTAL			MALE		FEMALE		
	Number	Median Grade	Average Salary	Number	Average Salary	Number	Average Salary	Women's Salary as % of Men's
Computer Operation	9,737	7.0	\$21,040	4,696	\$22,305	5,041	\$19,862	89.0
Computer Specialist	44,033	12.0	35,101	28,765	37,549	15,268	30,489	81.2
Computer Science	2,192	12.0	35,526	1,533	37,361	659	31,258	83.7
Computer Clerk & Assistant	10,499	5.0	18,663	2,969	19,203	7,530	18,450	96.1
Program Management	5,486	14.0	58,177	4,680	59,602	806	49,908	83.7
Administrative Officer	8,405	11.0	34,288	3,502	41,171	4,903	29,372	71.3
Management Analysis	16,697	11.0	33,154	8,230	36,215	8,467	30,178	83.3
Communications Management	2,038	12.0	39,616	1,803	40,700	235	31,302	76.9
Program Analysis	18,026	12.0	38,935	9,164	43,557	8,862	34,155	78.4
Communications Specialist	3,509	11.0	31,817	2,877	33,000	632	26,434	80.1
Operations Research	3,953	13.0	44,309	3,281	46,145	672	35,349	76.6
Mathematics	2,768	12.0	40,520	2,083	42,197	685	35,420	83.9
Mathematics Technician	75	7.0	20,160	23	19,446	52	20,475	105.3
Mathematics Statistician	1,032	13.0	41,857	759	44,245	273	35,216	79.6
Statistician	2,666	12.0	40,394	1,759	42,878	907	35,578	83.0
Statistical Assistant	2,162	6.0	19,450	284	19,408	1,878	19,456	100.2
Actuary	138	13.0	46,571	114	48,449	24	37,652	77.1
Accounting	11,490	12.0	35,650	7,620	38,473	3,870	30,089	78.2
General Attorney	18,698	14.0	50,188	13,153	52,361	5,545	45,036	86.0
General Health Science	2,116	11.0	37,998	1,210	41,071	906	33,895	82.5
Medical Officer	10,040	15.0	61,719	8,049	62,372	1,991	59,078	94.7
Physician's Assistant	1,313	11.0	31,440	941	32,146	372	29,653	92.2
Nurse Anesthetist	496	13.0	42,854	213	42,553	283	43,081	101.2
Nurse	38,920	11.0	29,031	3,666	27,932	35,254	29,145	104.3
Practical/Vocational Nurse	13,107	5.0	17,037	1,273	16,899	11,834	17,052	100.9
Nursing Assistant	17,792	4.0	16,275	6,833	16,618	10,959	16,062	96.7

NOTE: Median Grade and Average Salary are based on those employees reported by general schedule grades or equivalent salary level.

SOURCE: Office of Personnel Management, *Occupations of Federal White-Collar and Blue-Collar Workers*, September 30, 1987

TABLE 185 (Continued)

NUMBER, MEDIAN GRADE AND AVERAGE SALARY OF FEDERAL CIVILIAN WHITE-COLLAR WORKERS BY SEX,
ALL AREAS, SEPTEMBER 30, 1987

OCCUPATION SERIES AND GROUP	TOTAL			MALE		FEMALE		
	Number	Median Grade	Average Salary	Number	Average Salary	Number	Average Salary	Women's Salary as % of Men's
Dietitian & Nutritionist	1,530	10.0	\$29,482	74	\$34,460	1,456	\$29,229	84.8
Occupational Therapist	676	9.0	26,107	75	27,469	601	25,937	94.4
Physical Therapist	583	9.0	28,463	179	29,952	404	27,803	92.8
Educational Therapist	69	9.0	26,367	30	27,161	39	25,755	94.8
Medical Technologist	5,150	9.0	25,844	1,632	26,485	3,518	25,547	96.5
Medical Technician	2,274	6.0	18,579	860	19,567	1,414	17,979	91.9
Medical Record Technician	2,640	5.0	16,582	364	16,029	2,276	16,670	104.0
Pharmacist	3,497	11.0	33,500	2,341	34,376	1,156	31,725	92.3
Pharmacy Technician	2,763	5.0	16,129	966	16,276	1,797	16,051	98.6
Dental Officer	966	15.0	60,312	902	61,552	64	42,845	69.6
Dental Assistant	2,906	4.0	16,102	174	16,163	2,732	16,098	99.6
Dental Hygiene	375	6.0	19,005	10	21,444	365	18,938	88.3
Optometrist	155	13.0	34,501	121	38,883	34	18,906	48.6
Speech Pathology & Audio.	691	12.0	35,817	297	40,633	394	32,187	79.2
Orthotist & Prosthetist	235	9.0	25,945	219	26,353	16	20,362	77.3
Podiatrist	160	14.0	33,376	140	34,770	20	23,619	67.9
Health System Admin.	531	14.0	53,758	449	55,939	82	41,812	74.7
Health System Specialist	955	12.0	36,687	568	40,075	387	31,715	79.1
Industrial Hygiene	1,172	12.0	33,543	862	35,252	310	28,791	81.7
Consumer Safety	4,445	12.0	41,714	1,135	43,306	310	35,887	82.9
Environ. Health Tech.	174	7.0	20,020	134	20,582	40	18,135	88.1
Public Health Program Specialist	1,201	13.0	41,485	829	44,242	372	35,343	79.9
Veterinary Med. Science	1,995	12.0	40,837	1,788	41,641	217	34,245	82.2
Animal Health Technician	478	7.0	22,085	437	22,333	41	19,438	87.0

NOTE: Median Grade and Average Salary are based on those employees reported by general schedule grades or equivalent salary level.

SOURCE: Office of Personnel Management, *Occupations of Federal White-Collar and Blue-Collar Workers*, September 30, 1987

TABLE 185 (Continued)

NUMBER, MEDIAN GRADE AND AVERAGE SALARY OF FEDERAL CIVILIAN WHITE-COLLAR WORKERS BY SEX,
ALL AREAS, SEPTEMBER 30, 1987

OCCUPATION SERIES AND GROUP	TOTAL			MALE		FEMALE		
	Number	Median Grade	Average Salary	Number	Average Salary	Number	Average Salary	Women's Salary as % of Men's
Social Science	3,196	12.0	\$38,898	2,001	\$41,049	1,195	\$35,296	86.0
Social Science Aide & Tech.	728	7.0	20,309	357	21,531	371	19,134	88.9
Economist	5,748	13.0	44,451	4,503	46,357	1,245	37,560	81.0
Economics Assistant	50	7.0	21,175	11	21,361	39	21,122	98.9
Foreign Affairs	3,421	13.0	49,151	2,627	51,605	794	41,032	79.5
International Relations	84	14.0	55,371	69	57,003	15	47,864	84.0
Manpower Res. & Analysis	28	13.0	50,731	20	52,926	8	45,244	85.5
Manpower Development	480	13.0	45,739	361	48,839	119	36,337	74.4
Geography	276	12.0	34,112	198	35,866	78	29,660	82.7
Librarian	3,349	11.0	34,282	1,071	36,539	2,278	33,221	90.9
History	670	12.0	37,626	524	39,031	146	32,582	83.5
Psychology	3,468	13.0	42,498	2,643	44,355	825	36,548	82.4
Psychology Aide & Tech.	1,114	7.0	20,397	686	20,568	428	20,122	97.8
Sociology	72	13.0	42,883	47	44,911	25	39,070	87.0
Social Work	4,276	11.0	32,545	2,172	33,954	2,104	31,091	91.6
Social Services	648	8.0	21,942	184	23,620	464	21,276	90.1
General Anthropology	49	12.0	42,484	36	44,195	13	37,746	85.4
Archeology	670	11.0	28,984	456	30,310	214	26,159	86.3
Secretary	101,096	5.0	18,437	1,322	17,011	99,774	18,456	108.5

NOTE: Median Grade and Average Salary are based on those employees reported by general schedule grades or equivalent salary level.

SOURCE: Office of Personnel Management, Unpublished data.

TABLE 186

NUMBER AND AVERAGE SALARY OF FEDERAL CIVILIAN WHITE COLLAR WORKERS BY SEX AND MINORITY STATUS, ALL AREAS, SEPTEMBER 30, 1988

OCCUPATION SERIES AND GROUP	TOTAL		MALE		FEMALE		MINORITY	
	Number	Average Salary	Number	Average Salary	Number	Average Salary	Number	Average Salary
General Engineering	19,942	\$48,673	18,848	\$49,292	1,094	\$38,068	2,345	\$43,553
Safety Engineering	577	41,856	532	42,539	45	33,886	84	37,076
Fire Prevention Engineering	140	43,250	136	43,418	4	37,530	11	37,902
Materials Engineering	1,250	43,401	1,066	44,898	184	34,713	144	40,002
Landscape Architecture	623	39,077	522	40,375	101	32,371	25	35,974
Architecture	1,920	39,718	1,699	40,315	221	35,142	477	38,564
Civil Engineering	15,930	41,228	14,762	41,864	1,168	33,184	2,152	38,822
Environmental Engineering	2,926	39,329	2,332	40,952	594	32,957	498	35,751
Mechanical Engineering	13,378	38,863	12,555	39,252	823	32,910	2,024	36,779
Nuclear Engineering	3,136	44,060	2,965	44,533	171	35,836	387	40,113
Electrical Engineering	4,822	40,010	4,530	40,482	292	32,678	1,001	37,287
Computer Engineering	16	39,728	12	41,724	4	33,742	0	
Electronics Engineering	28,276	42,179	26,439	42,727	1,837	34,281	4,459	37,688
Biomedical Engineering	385	36,731	318	38,072	67	30,507	40	35,156
Aerospace Engineering	8,988	45,666	8,369	46,421	619	35,509	837	40,521
Naval Architecture	1,271	43,696	1,189	44,211	82	36,248	185	41,503
Mining Engineering	432	41,295	413	41,846	19	29,414	30	44,029
Petroleum Engineering	465	43,215	425	44,056	40	34,276	43	40,306
Agricultural Engineering	401	40,208	391	40,508	10	28,470	17	34,823
Ceramic Engineering	74	44,736	61	46,996	13	34,306	3	49,540
Chemical Engineering	1,698	40,391	1,404	41,768	294	33,805	270	37,204
Welding Engineering	94	38,462	89	38,826	5	31,987	17	37,084
Industrial Engineering	3,136	37,940	2,712	38,932	424	31,653	425	35,917
General Physical Science	5,898	49,210	4,986	51,413	912	37,295	462	44,918

SOURCE: Office of Personnel Management, Unpublished data.

TABLE 186 (Continued)

NUMBER AND AVERAGE SALARY OF FEDERAL CIVILIAN WHITE COLLAR WORKERS BY SEX AND MINORITY STATUS, ALL AREAS, SEPTEMBER 30, 1988

OCCUPATION SERIES AND GROUP	TOTAL		MALE		FEMALE		MINORITY	
	Number	Average Salary	Number	Average Salary	Number	Average Salary	Number	Average Salary
Health Physics	610	\$44,462	513	\$45,929	97	\$36,721	78	\$38,712
Physics	4,038	49,252	3,808	49,754	230	40,859	287	45,997
Geophysics	656	44,271	591	45,633	65	31,890	42	42,063
Hydrology	2,511	38,496	2,191	39,817	320	29,469	132	35,631
Chemistry	7,899	40,849	6,020	42,733	1,879	34,819	1,448	37,432
Metallurgy	318	47,144	306	47,436	12	39,723	43	45,883
Astronomy & Space Science	502	51,934	469	52,318	33	46,660	24	51,924
Meteorology	2,320	41,343	2,170	41,908	150	33,189	193	43,003
Geology	2,879	40,496	2,377	42,198	502	32,469	117	37,038
Oceanography	773	43,173	667	44,649	106	33,938	58	41,380
Cartography	4,586	33,408	3,718	34,099	868	30,446	548	33,938
Geodesy	344	38,554	296	39,199	48	34,505	31	35,333
Land Surveying	524	31,861	505	32,186	19	23,227	28	29,846
Food Technology	303	35,151	212	36,959	91	30,959	51	32,291
Textile Technology	97	35,899	53	40,629	44	30,201	7	30,262
Forest Prod. Technology	74	48,737	70	49,498	4	35,428	4	43,023
General Biological Science	6,374	38,163	4,831	40,517	1,543	31,320	791	34,307
Microbiology	2,156	37,898	1,289	41,101	867	33,125	333	35,299
Pharmacology	470	45,720	364	46,554	106	42,832	96	44,107
Agricultural Extension	55	59,394	40	60,989	15	55,141	3	60,286
Ecology	398	38,561	320	40,339	78	31,290	16	35,412
Zoology	119	46,705	100	48,644	19	36,602	3	30,103
Physiology	586	42,516	461	43,801	125	37,820	62	39,980
Entomology	736	43,523	674	44,396	62	34,073	55	38,467

SOURCE: Office of Personnel Management, Unpublished data.

TABLE 186 (Continued)

NUMBER AND AVERAGE SALARY OF FEDERAL CIVILIAN WHITE COLLAR WORKERS BY SEX AND MINORITY STATUS, ALL AREAS, SEPTEMBER 30, 1988

OCCUPATION SERIES AND GROUP	TOTAL		MALE		FEMALE		MINORITY	
	Number	Average Salary	Number	Average Salary	Number	Average Salary	Number	Average Salary
Toxicology	132	\$46,361	98	\$47,094	34	\$44,268	11	\$45,186
Botany	187	36,554	125	39,660	62	30,239	11	45,186
Plant Pathology	324	44,304	284	46,268	40	30,413	25	39,516
Plant Physiology	346	42,792	293	44,523	53	33,288	30	35,265
Plant Prot. & Quarantine	1,345	28,444	1,113	29,276	232	24,457	400	26,420
Horticulture	121	35,852	94	38,481	27	26,800	12	32,337
Genetics	367	43,743	293	45,953	74	35,081	26	43,349
Range Conservation	1,252	29,971	1,092	30,880	160	23,772	101	27,674
Soil Conservation	5,071	30,220	4,550	31,079	521	22,730	565	29,082
Forestry	6,167	34,689	5,481	35,750	686	26,172	323	30,659
Soil Science	1,810	33,697	1,664	34,529	146	24,228	140	32,638
Agronomy	337	38,028	328	38,342	9	26,657	25	33,780
Agriculture Management	3,898	30,327	3,433	30,922	465	25,931	387	29,882
General Fish & Wildlife Administration	187	55,643	181	55,583	6	57,432	2	31,412
Fishery Biology	1,495	34,708	1,308	35,907	187	26,331	99	33,197
Wildlife Refuge Management	587	31,944	525	33,069	62	22,416	35	24,631
Wildlife Biology	1,772	32,278	1,455	33,792	317	25,336	97	29,811
Animal Science	131	42,543	119	43,768	12	30,395	5	37,399
Home Economics	66	31,864	5	46,996	61	30,624	9	26,665
General Health Science	2,615	38,236	1,461	41,387	1,154	34,258	377	36,453
Medical Officer	33,427	44,203	26,407	45,121	7,020	40,746	6,549	46,684
Medical Technologist	5,573	26,686	1,691	27,335	3,882	26,402	1,403	26,464
Nurse Anesthetist	537	43,140	239	43,209	298	43,085	68	44,277
Nurse	43,344	30,954	3,873	30,008	39,471	31,047	11,502	31,105

SOURCE: Office of Personnel Management, Unpublished data.

TABLE 186 (Continued)

NUMBER AND AVERAGE SALARY OF FEDERAL CIVILIAN WHITE COLLAR WORKERS BY SEX AND MINORITY STATUS, ALL AREAS, SEPTEMBER 30, 1988

OCCUPATION SERIES AND GROUP	TOTAL		MALE		FEMALE		MINORITY	
	Number	Average Salary	Number	Average Salary	Number	Average Salary	Number	Average Salary
Dietitian & Nutritionist	1,705	\$29,728	79	\$34,198	1,626	\$29,513	366	\$30,864
Occupational Therapist	706	27,193	69	27,968	637	27,107	125	27,180
Physical Therapist	643	29,933	179	31,258	464	29,425	114	26,639
Corrective Therapist	541	26,639	379	27,670	162	24,247	171	26,367
Manual Arts Therapist	229	27,642	207	27,923	22	25,003	28	27,077
Recreation/Creative Arts Therapist	740	26,216	372	27,874	368	24,537	120	25,452
Educational Therapist	64	26,980	24	27,725	40	26,522	11	26,547
Pharmacist	4,064	35,174	2,599	36,102	1,465	33,532	887	34,359
Optometrist	245	39,048	194	42,845	51	24,259	23	27,514
Speech Pathology & Audio.	922	32,658	325	39,473	597	28,972	69	29,763
Podiatrist	256	39,472	229	40,822	27	28,067	26	34,241
Dental Officer	1,492	50,725	1,335	52,627	157	34,447	141	43,963
Industrial Hygiene	1,270	33,844	884	35,927	386	29,083	199	32,656
Consumer Safety	1,463	42,089	1,112	44,122	351	35,652	253	38,181
Veterinary Medical Science	2,136	41,258	1,886	42,012	250	35,643	428	39,380
Safety & Occupational Health	3,888	33,851	3,257	*	682	29,208	588	31,830
General Education & Training	12,734	25,965	3,005	32,139	9,729	24,051	1,588	23,732
Education & Vocational Training	10,826	30,300	5,055	35,929	5,771	25,349	2,461	27,626
Education Program	488	47,811	248	53,389	240	42,071	170	45,243
School Administration	10	49,740	5	55,883	5	43,597	1	42,066
Education Research	80	55,615	51	*	29	52,169	10	50,706
Public Health Education	34	38,602	13	43,604	21	35,505	17	33,188
Secondary Teaching	7	24,792	4	23,951	3	25,914	2	31,060
Education Services	50	27,289	41	*	9	28,287	8	25,032

* Not available

SOURCE: Office of Personnel Management, Unpublished data.

TABLE 186 (Continued)

NUMBER AND AVERAGE SALARY OF FEDERAL CIVILIAN WHITE COLLAR WORKERS BY SEX AND MINORITY STATUS, ALL AREAS, SEPTEMBER 30, 1988

OCCUPATION SERIES AND GROUP	TOTAL		MALE		FEMALE		MINORITY	
	Number	Average Salary	Number	Average Salary	Number	Average Salary	Number	Average Salary
Computer Science	2,539	\$37,417	1,762	\$39,181	777	\$33,422	338	\$34,237
Cryptography	6	41,028	3	48,457	3	33,598	1	36,539
Operations Research	3,975	45,275	3,248	47,139	727	36,970	423	42,059
Mathematics	2,708	42,050	1,978	43,653	730	37,722	365	39,491
Mathematical Statistician	1,146	42,127	812	44,731	334	35,790	212	39,394
Statistician	2,840	41,050	1,836	43,476	1,004	36,625	487	35,983
Actuary	152	47,322	119	49,841	33	38,316	17	44,146
Archivist	399	37,549	261	39,607	138	33,656	26	34,807
Accounting	11,308	36,480	7,279	39,496	4,029	31,033	2,739	33,285
Auditing	14,272	37,021	10,563	39,429	3,709	30,138	2,541	33,473
General Attorney	19,691	51,143	13,361	53,444	6,330	46,292	1,923	47,203
Patent Attorney	234	59,981	227	60,372	7	47,306	8	61,101
Community Planning	503	44,114	404	46,050	99	36,290	62	44,570
Social Science	3,412	37,879	2,013	40,164	1,399	34,586	822	35,810
Economist	5,775	45,124	4,477	47,005	1,298	38,647	539	39,835
Social Work	4,510	32,587	2,186	34,458	2,324	30,837	1,150	32,207
Sociology	101	43,094	60	46,190	41	38,639	8	45,086
Foreign Affairs	3,690	51,474	2,886	53,794	804	43,153	404	44,369
International Relations	94	56,081	73	58,319	21	48,409	10	55,266
Manpower Res. & Analysis	36	52,338	25	55,045	11	46,185	6	53,417
Geography	291	34,721	204	36,286	87	31,027	20	31,570
History	698	38,544	529	40,102	169	33,694	36	34,752
Psychology	4,070	40,116	2,929	43,115	1,141	32,455	300	36,016
General Anthropology	55	43,477	39	45,579	16	38,353	5	45,926
Archeology	838	27,986	551	29,475	287	25,128	31	26,231

TABLE 187

COMPARISON OF AVERAGE ANNUAL SALARIES IN PRIVATE NONSERVICE INDUSTRIES WITH SALARY RATES FOR
FEDERAL EMPLOYEES UNDER THE GENERAL SCHEDULE, MARCH 1988

OCCUPATION AND LEVEL*	Salaries in Industry	Grade	SALARY RATES UNDER THE GENERAL SCHEDULE										AVERAGE SALARY**
			1	2	3	4	5	6	7	8	9	10	
Computer Programmers I Accountants I Chemists I Computer Operators II Engineers I Engineering Technicians III Drafters IV	\$22,356 21,962 21,314 18,237 29,222 26,093 26,555	GS-5	\$15,118	\$15,622	\$16,126	\$16,630	\$17,134	\$17,638	\$18,142	\$18,646	\$19,150	\$19,654	\$17,181
Computer Programmers II Accountants II Chemists II Computer Operators IV Engineers II Engineering Technicians IV Drafters V	26,015 26,666 30,439 26,768 30,193 30,193 32,701	GS-7	18,726	19,350	19,974	20,598	21,222	21,846	22,470	23,094	23,718	24,342	21,194
Computer Programmers III Accountants III Attorneys I Chemists III Systems Analysts I Engineers III Engineering Technicians V	31,304 31,218 31,218 31,769 31,130 31,244 34,910	GS-9	22,907	23,671	24,435	25,199	25,963	26,727	27,491	28,255	29,019	29,783	25,751
Computer Programmers IV Accountants IV Attorneys II Chemists IV Systems Analysts II Engineers IV	37,585 41,966 42,489 42,760 37,586 45,680	GS-11	27,716	28,640	29,564	30,488	31,412	32,336	33,260	34,184	35,108	36,002	31,403
Computer Programmers V Accountants V Attorneys III Chemists V Systems Analysts III Engineers V	45,538 45,538 45,538 45,984 45,093 54,817	GS-12	33,218	34,325	35,432	36,539	37,646	38,753	39,860	40,967	42,074	43,181	37,997
Accountants VI Attorneys IV Chemists VI Systems Analysts IV Engineers VI	67,950 69,854 65,526 65,516 65,793	GS-13	39,501	40,818	42,135	43,452	44,769	46,086	47,403	48,720	50,037	51,354	45,580
Attorneys V Chemists VII Systems Analysts V Engineers VII	86,940 79,534 64,680 74,326	GS-14	46,679	48,235	49,791	51,347	52,903	54,459	56,015	57,571	59,127	60,683	54,720
Attorneys VI Engineers VIII Systems Analysts VI	110,489 88,725 76,050	GS-15	54,907	56,737	58,567	60,397	62,227	64,057	65,887	67,717	69,547	71,377	65,067

*See Original Survey for definition of levels.

**Mean salary of all general schedule employees in each grade as of March 31, 1988.

SOURCE: National Science Foundation, *Characteristics of Doctoral Scientists and Engineers in the United States, 1987*

TABLE 188

NUMBER AND MEDIAN ANNUAL SALARIES OF CIVILIAN DOCTORAL SCIENTISTS AND ENGINEERS EMPLOYED BY THE FEDERAL GOVERNMENT BY FIELD, 1983-1987

FIELD	1983				1985				1987			
	Number	%	Percent of total employed	Median annual salary	Number	%	Percent of total employed	Median annual salary	Number	%	Percent of total employed	Median annual salary
TOTAL	25,793	100.0	7.0	\$44,700	26,337	100.0	6.6	\$48,400	27,532	100.0	6.6	\$50,700
PHYSICAL SCIENTISTS	4,307	16.7	6.7	44,300	4,044	15.4	6.0	49,600	4,322	15.7	6.3	50,600
Chemists	2,054	8.0	5.0	42,900	1,752	6.7	4.0	47,400	1,891	6.9	4.3	47,500
Physicists/Astronomers	2,253	8.7	9.9	45,700	2,292	8.7	9.7	51,100	2,431	8.8	9.9	54,200
MATHEMATICAL SCIENTISTS	790	3.1	4.8	45,500	853	3.2	5.1	48,100	848	3.1	5.1	50,700
Mathematicians	499	1.9	3.7	44,600	562	2.1	4.0	48,300	586	2.1	4.2	56,400
Statisticians	291	1.1	10.4	46,700	291	1.1	10.4	47,100	262	1.0	9.3	50,200
COMPUTER/INFO. SPECIALISTS	490	1.9	4.0	45,900	692	2.6	4.6	50,500	797	2.9	4.3	56,400
ENVIRONMENTAL SCIENTISTS	3,102	12.0	18.8	45,900	3,309	12.6	19.1	50,000	3,363	12.2	18.9	52,400
Earth Scientists	2,176	8.4	17.4	46,100	2,384	9.1	18.1	50,200	2,412	8.8	17.8	51,700
Oceanographers	274	1.1	15.7	41,500	445	1.7	22.7	50,300	363	1.3	17.8	52,300
Atmospheric Scientists	652	2.5	29.6	48,000	480	1.8	22.6	47,600	588	2.1	26.8	58,200
ENGINEERS	3,843	14.9	6.2	46,500	3,807	14.5	5.8	50,800	3,606	13.1	5.3	53,800
LIFE SCIENTISTS	7,771	30.1	8.4	42,700	7,962	30.2	7.8	46,600	8,709	31.6	8.1	47,900
Biological Scientists	4,622	17.9	8.4	42,000	4,790	18.2	8.0	45,600	5,132	18.6	8.3	47,300
Agricultural Scientists	2,036	7.9	14.0	43,400	2,055	7.8	13.2	48,200	2,213	8.0	14.0	45,600
Medical Scientists	1,113	4.3	4.8	49,000	1,117	4.2	4.2	48,700	1,364	5.0	4.6	52,400
PSYCHOLOGISTS	1,191	4.6	2.6	43,800	1,049	4.0	2.0	44,100	1,388	5.0	2.5	45,400
SOCIAL SCIENTISTS	4,299	16.7	7.2	45,600	4,621	17.5	7.2	48,200	4,499	16.3	6.8	53,600
Economists	1,692	6.6	10.0	48,900	1,719	6.5	9.6	52,100	1,398	5.1	7.8	56,900
Soc./Anthropologists	121	0.5	1.0		176	0.7	1.4		281	1.0	2.2	
Other Social Scientists	2,486	9.6	8.2	44,700	2,726	10.4	8.2	46,100	2,820	10.2	8.0	53,300

NOTE: Percents may not add to 100 because of rounding. Median salaries computed for full-time civilians only. No median was computed for groups with fewer than 20 individuals reporting salary.

SOURCE: American Chemical Society, *Salaries 1989 - An Analysis of The American Chemical Society's 1989 Survey of Salaries and Employment*, July 1989.

TABLE 189

**MEDIAN AND MEAN SALARIES OF FULL-TIME EMPLOYED GOVERNMENTAL CHEMISTS*
BY HIGHEST DEGREE AND YEARS SINCE B. S., 1989**

YEARS SINCE B. S.	BACHELOR'S		MASTER'S		Ph. D.	
	Median	Mean	Median	Mean	Median	Mean
2-4	\$22,800	\$23,438	\$	\$	\$	\$
5-9	28,000	29,113	32,000	31,223	36,000	38,339
10-14	33,300	34,581			44,867	45,151
15-19	38,732	39,241	38,000	39,945	48,150	47,732
20-24	41,200	41,230	42,000	41,016	52,528	53,359
25-29	45,117	45,686	49,700	48,812	57,712	57,349
30-34	38,875	42,158	47,000	48,942	61,753	60,237
35-39			46,000	46,779	61,000	60,310
> = 40					64,000	63,446
All Years	35,000	36,926	38,020	40,866	53,400	54,251

* Includes only members of the American Chemical Society.

NOTE: Blanks indicate fewer than 15 respondents

FACULTY SALARIES

The only national faculty salary survey that presents data by discipline as well as rank and control is conducted by the **College and University Personnel Association** in conjunction with **Appalachian State University, Boone, North Carolina**. Data are collected separately for faculty employed in public and private institutions. The **1988-89 NATIONAL FACULTY SALARY SURVEY BY DISCIPLINE AND RANK IN STATE COLLEGES AND UNIVERSITIES** presents data on 51 disciplines from 281 state colleges and universities employing 73,412 faculty members. The **1988-89 NATIONAL FACULTY SALARY SURVEY BY DISCIPLINE AND RANK IN PRIVATE COLLEGES AND UNIVERSITIES** presents data on 51 disciplines from 470 private institutions employing 45,698 faculty members.

Overall, the average faculty salary in state colleges and universities was \$36,967, up 5.7% over 1987-88. In private institutions, the average faculty salary increased 4.2% from the previous year to \$35,874. Engineering faculty topped the pay scale for the sixth consecutive year, earning an average 42% more than the average of faculty members in other disciplines at private institutions, and 23% more than the average for all others at public ones. Together with engineering professors, faculty members in other "hard-to-hire" disciplines such as accounting, business and management, computer and information science and physics all continue to earn higher than average salaries. Disciplines with less competition remain at the bottom of the salary scale.

The study found that as in past years, faculty salaries in some disciplines have become compressed with pay increases and even total salaries for senior professors lagging behind those of faculty members with less seniority. For example, new assistant professors of accounting at public institutions, who earn 37% more than new assistant professors in other disciplines, also earned an average of \$3,000 more than colleagues of the same rank who had been teaching accounting longer.

Faculty members at all ranks except full professors again fared better at public institutions than at private ones. Average faculty salaries by rank and discipline in public and private institutions are reported in **Tables 190 and 191**.

Faculty salaries rose 5.8% between 1987-88 and 1988-89 to an average of \$39,140. This marks the eighth consecutive year in which faculty salaries have outpaced inflation, according to the **ANNUAL REPORT ON THE ECONOMIC STATUS OF THE PROFESSION** by the **American Association of University Professors**. Salary levels generally increased faster at private independent institutions than at public and church-related schools. Salary increases for continuing faculty averaged 6.8%. Average salaries and total compensation for faculty are higher at private independent institutions than public ones for the major research universities (Category I) and the liberal arts colleges (Category II-B), while the reverse is true at the comprehensive universities (Category II-A) and two-year institutions (Categories III and IV). Average salary and average compensation by academic rank, type of institution and type of affiliation are presented in **Tables 192 and 193**.

The average salaries of women in each rank and each category of institution are less than those of men. The differences tend to be largest at the full professor rank. The average salary for male full professors (excluding Category IV) is \$51,150, 13.2% more than the average of \$45,190 received by female full professors. The differences are somewhat less at the lower ranks, but do not fall below 7.5%. The differences are smaller at public than at private institutions, and at liberal arts colleges than at research universities (**Table 194**).

Faculty salaries vary geographically as shown in **Table 195**. Faculty in major research universities earn more in the New England area, followed closely by the Pacific region, and earn the least in the East South Central region.

For the average faculty member, the value of fringe benefits totalled about 23% of salary. Overall, 65% of faculty members have tenure as shown in **Table 196**.

The average faculty salary for all ranks combined at four-year public institutions was \$37,863 compared to \$35,449 at private institutions, according to unpublished information for inclusion in **SALARIES**,

TENURE AND FRINGE BENEFITS OF FULL-TIME FACULTY, 1987-88 from the National Center for Education Statistics of the U. S. Department of Education. Regardless of rank, faculty earned higher salaries in public institutions than in private ones (Table 197).

Regardless of rank or type of institution, women faculty members earned less than their male colleagues. The salary gap is greatest for women at private four-year institutions, where women earn only 76.3% as much as men. At public four-year institutions, women earned 79.7% of men's earnings (Table 198). As in previous surveys, the salary difference between men and women is greatest at the lecturer and full professor ranks (Table 199).

Faculty salaries are highest in California at \$45,898 for all ranks combined and lowest in South Dakota at \$27,474 (Table 200).

The National Science foundation reports in its **CHARACTERISTICS OF DOCTORAL SCIENTISTS AND ENGINEERS IN THE UNITED STATES: 1987** that among doctoral scientists and engineers employed in educational institutions in 1987, engineers reported the highest median salary - \$55,500, while Ph.D. oceanographers reported the lowest - \$39,900. However, among all doctoral engineers, only 35% were employed in educational institutions, compared with 64% of the oceanographers. Table 201 compares the median salaries of doctoral scientists and engineers employed in educational institutions from 1983 through 1987. Among doctoral scientists and engineers who are college or university teachers, engineers again report the highest salaries, regardless of rank or length of contract (Table 202).

The American Chemical Society's **SALARIES 1989** ... found that chemists employed in colleges and universities earn less than those employed in other sectors of the economy. Among academic chemists, those engaged primarily in research report higher salaries than chemists engaged in teaching (Table 203). Salaries of Ph.D. academic chemists by rank and years since bachelor's degree are shown in Table 204. Overall, average salaries of Ph.D. chemists are \$48,000 at the professor rank, \$35,800 for associate professor, and \$30,000 for assistant professor.

Table 205 presents salaries of Ph.D. chemists by work specialty. Salaries ranged from a high of \$55,400 for polymer chemists to a low of \$43,600 for general chemists for the rank of professor. By type of institution, Ph.D. chemists employed in medical schools reported the highest median salaries regardless of academic rank (Table 206).

As was true in other employment sectors, women Ph.D. chemists employed in academic institutions reported lower salaries than their male colleagues regardless of academic rank. Male chemistry professors on 9-10 month contracts reported a median salary of \$48,000, compared to \$42,993 for female chemistry professors (Table 207).

Geographically, Ph.D. academic chemists who are full professors earn more in the Pacific region, and least in the East South Central. For associate professors, those in the New England region report the highest salaries, while those in the East South Central again report the lowest (Table 208).

The 32nd annual survey of faculty salaries and tenure by the American Mathematical Society and the Mathematical Association of America is based on usable returns from 669 departments in the mathematical sciences. Table 209 shows that doctoral mathematics teachers employed in doctorate granting departments earn more than those employed in non-doctorate granting departments. Additionally, the more prestigious the doctoral granting department, generally the higher salaries paid the faculty, regardless of rank. As expected, non-doctoral degree mathematics teachers earn less than those with a Ph.D., regardless of type of institution (Table 210).

The American Institute of Physics in its **1987 SALARIES, SOCIETY MEMBERSHIP SURVEY** reports that Ph.D. physics professors employed in four-year colleges had a median salary of \$40,000 compared to \$26,500 for assistant professors (Table 211). However, doctoral physics professors employed in universities had a median of \$50,000, while assistant professors earned \$31,300 (Table 212).

The annual **1988-89 FACULTY SALARIES IN GRADUATE DEPARTMENTS OF PSYCHOLOGY** conducted by the American Psychology Association and the Council of Graduate Departments of

Psychology reports data submitted by 454 departments covering 7,114 full-time faculty who hold the doctorate. With the exception of full professors with at least 12 years of experience and assistant professors with less than three years of experience, psychology faculty in doctoral departments in the Middle-Atlantic states reported the highest salaries regardless of rank or length of experience. Median salaries ranged from a high of \$61,450 for full professors with at least 12 years of experience working in the Pacific area to a low of \$27,750 for assistant professors working in the East South Central area (Table 213). Similar information is presented for full-time faculty in U.S. master's departments of psychology in Table 214.

Type of department also affected level of academic psychologist's salary as shown in Table 215. Salaries ranged from a high of \$56,219 for full professors in psychology departments to a low of \$47,092 for professors in professional schools. By employment setting, Ph.D. psychologists who are full professors earn more as faculty in medical school psychiatry departments of university business schools, and least in four-year college psychology departments (Table 217). Table 216 presents salaries of faculty in psychology departments by rank, type of department and years in rank for 1988-89.

The American Geological Institute in its 1988-89 GEOSCIENCE FACULTY SALARY SURVEY received responses from 70 departments of geology, covering 803 faculty. Information from that survey is summarized in Table 218. Respondents to the survey indicated that faculty salaries would increase an average 5.0% in the next academic year.

The median salary for engineering professors and instructors in education reached \$45,050 in 1988, according to the 19th survey report on SALARIES OF ENGINEERS IN EDUCATION 1988 by the Engineering Manpower Commission of the American Association of Engineering Societies. The 1988 survey reports data on salaries of 13,934 engineering educators. Full professors had an overall median salary of \$55,900 compared to only \$32,250 for instructors (Table 219). Faculty in engineering schools earn considerably more than their colleagues in technology schools as shown on Tables 220 and 221. For example, full professors in engineering schools reported a median salary of \$56,400, nearly 30% more than the \$39,750 earned by full professors in technology schools. Salaries of engineering faculty by rank, type of school and length of contact are shown in Table 222.

Salaries of pharmacy faculty increased 7.5% for the 1988-89 academic year, compared with a 6.5% increase reported the previous year, according to the ANNUAL SURVEY OF FACULTY SALARIES by the American Association of Colleges of Pharmacy. The number of full-time women faculty members in pharmacy increased to 2,295 - 19.6% of the total. However, regardless of type of school, discipline, rank or experience level, women faculty members continued to earn less than their male colleagues. By discipline, average salaries of pharmacy faculty ranged from a high of \$59,705 for those in medicinal/pharm/chem/pharmacognosy to a low of \$37,215 for those in pharmacy practice (Table 223). Table 224 presents average salaries of pharmacy faculty by rank, years in rank and sex. Public institutions pay higher salaries to their pharmacy faculty than do private institutions regardless of rank or length of contract as shown in Table 225. Not surprisingly, the higher the academic degree, the higher the salary regardless of type of school (Table 226).

Starting salaries for physiology faculty regardless of type of school range from \$47,234 for full professors to \$21,992 for instructors (Table 228), according to the annual survey of physiology departments conducted by the American Physiological Society and reported in THE PHYSIOLOGIST. Overall, salaries ranged from a high of \$68,145 for professors to a low of \$26,898. As shown in Table 227, medical schools pay higher salaries than non-medical schools, and private medical schools pay more than public ones. Generally, the more seniority one has, the higher the salary, regardless of rank (Table 229). By geographic region, salaries ranged from a high of \$96,370 paid to chairmen of physiology departments in the Northeast to a low of \$23,058 for instructors in the West (Table 230).

Average salaries for professors in business schools rose to \$56,900, according to the 21st annual 1988-1989 SALARY SURVEY conducted by the American Assembly of Collegiate Schools of Business. The survey includes salary data from 512 institutions covering over 24,400 faculty members and 3,450 administrators. Women comprise approximately 16.5% of the faculty at AACSB accredited schools. Women with new Ph.D.s received salaries that averaged 98.5% of the salaries paid to all new doctorates, and women ABDs received salaries that averaged 98.4% as is shown in Table 231.

By field, salaries of business faculty ranged from a high of \$62,700 for professors in behavioral science/organizational behavior to a low of \$23,700 for instructors in business law (Table 232).

Overall, administrative personnel in business schools earn higher salaries than do faculty. Not surprisingly, administrators report higher salaries in accredited business schools than in non-accredited schools. Salaries by type of institution for administrative personnel in business schools are reported in Table 233.

Salaries of higher education administrators rose 5.3% during 1988, according to the 12th annual 1988-89 ADMINISTRATIVE COMPENSATION SURVEY, conducted by the College and University Personnel Association. This increase followed a year when academic administrators' salaries failed to keep pace with inflation, rising only 3.3% in 1987-88. At private institutions, administrators' salaries gained 6.7% compared to 2.5% in the previous year. At public institutions, the increase in 1988-89 was 4.9%, up from 4.2% the previous year. The Consumer Price Index rose 3.9% in the same period. The 1988-89 survey reported information from 1,268 higher education institutions.

Most of the highest paid administrators on campus are deans, headed as usual, by the Dean of Medicine, with a median salary of \$143,200. Salaries of all academic deans are up over last year, with some showing higher percentage increases than others (Table 234).

Regardless of position, women and members of minority groups continue to receive lower salaries than do majority men in similar positions. Some of the discrepancy can be explained by the fact that women and members of minority groups have spent less time in their current jobs. As a group, female salaries average 39% less than those of their male counterparts. Minority salaries averaged 9% less than nonminority salaries, while years of service of minorities averaged 16% less than those of nonminorities. Median salaries paid to administrative personnel by position, minority/non-minority status and sex broken out by size of budget are shown in Tables 235 and 236.

The National Education Association in its ESTIMATES OF SCHOOL STATISTICS collects data on average annual salaries of instructional staff and classroom teachers, at both the elementary and secondary school level. In its 1988-89 report, NEA estimates that the average classroom teacher's salary increased 5.6% over the previous year to \$29,567. Highest average salaries for classroom teachers were paid by Alaska, while instructional staff earned the most in the District of Columbia (Table 237).²

SOURCE: College and University Personnel Association, 1988-89 National Faculty Salary Survey By Discipline and Rank in State Colleges and Universities, 1989.

TABLE 190

AVERAGE FACULTY SALARIES IN STATE COLLEGES AND UNIVERSITIES* BY DISCIPLINE (MAJOR FIELD) AND RANK 1988-89

DISCIPLINE / MAJOR FIELD	R A N K											
	Professor		Associate Professor		Asst. Professor		New Asst. Prof.		Instructor		All Ranks	
	No.	Salary	No.	Salary	No.	Salary	No.	Salary	No.	Salary	No.	Salary
AGRICULTURE & NATURAL RESOURCES	186	\$44,304	122	\$34,867	103	\$29,823	12	\$30,535	17	\$21,811	428	\$37,235
ARCHITECTURE & ENVIRONMENTAL DESIGN	94	48,681	86	39,331	62	32,143	10	33,057	6	26,769	248	40,774
AREA STUDIES	78	47,801	73	38,935	48	31,776	6	29,623	8	25,791	207	40,108
BIOLOGICAL SCIENCES	1,802	44,434	962	35,543	705	29,402	121	27,912	96	21,980	3,565	38,457
BUSINESS AND MANAGEMENT	660	50,743	679	41,906	742	36,450	147	38,474	225	27,837	2,306	41,306
Accounting	512	52,617	535	43,420	629	37,578	106	40,322	228	26,326	1,904	41,916
Business Economics	411	47,431	372	38,919	329	33,542	63	32,887	74	24,747	1,186	39,492
Business Mgmt. & Administration	748	49,685	822	41,750	786	36,194	141	38,351	253	24,998	2,609	40,726
Secretarial & Related Programs	87	41,417	126	34,586	130	28,829	11	30,728	62	22,891	405	32,415
COMMUNICATIONS	437	44,701	483	35,213	572	28,694	108	27,877	233	23,049	1,725	33,812
Communication Technologies	56	47,517	60	35,469	61	30,444	5	26,720	27	25,828	204	35,997
COMPUTER & INFORMATION SCIENCE	438	50,150	520	42,006	664	35,504	102	36,805	271	26,054	1,893	39,326
EDUCATION	1,171	43,945	1,001	35,916	784	28,930	150	28,004	210	22,275	3,166	36,250
Curriculum & Instruction	303	43,099	263	36,131	248	29,302	49	27,167	63	24,696	877	35,785
Education Administration	196	45,545	104	36,217	55	29,645	15	28,800	3	20,424	358	40,181
Physical Education	691	44,259	743	35,920	908	29,940	80	26,911	531	24,298	2,873	33,887
Reading Education	92	42,364	43	35,231	52	29,169	9	27,657	26	22,762	213	35,310
Special Education	284	44,588	248	35,546	196	28,831	35	27,114	50	23,760	778	36,397
Student Counseling & Personnel	225	45,037	153	35,635	106	29,116	24	27,404	13	26,593	497	38,264
Teacher Education, General Programs	654	43,072	445	35,146	449	28,774	102	27,295	81	22,842	1,629	35,960
Vocational & Technical Education	167	42,862	147	35,560	137	29,290	16	27,960	61	24,801	512	34,982
ENGINEERING	884	53,998	725	43,520	614	36,847	103	36,780	51	26,418	2,274	45,407
Engineering Technologies	245	44,233	372	37,285	384	31,151	38	31,648	108	25,253	1,109	35,522
FINE & APPLIED ARTS												
Dramatic Arts	276	44,150	285	33,946	299	27,192	64	25,711	42	21,962	902	34,271
Fine Arts	741	42,754	620	33,746	431	28,006	78	26,519	58	23,534	1,850	35,696
Music	1,141	43,415	1,015	36,437	915	31,623	147	27,632	244	23,887	3,315	36,586
Visual & Performing Arts	296	42,078	341	34,032	336	27,250	39	25,649	74	23,592	1,047	33,392
FOREIGN LANGUAGES	631	44,525	622	35,057	553	28,098	94	26,274	163	22,871	1,969	35,128

*Includes 281 institutions.

SOURCE: College and University Personnel Association, 1988-89 National Faculty Salary Survey By Discipline and Rank in State Colleges and Universities, 1989.

TABLE 190 (Continued)

AVERAGE FACULTY SALARIES IN STATE COLLEGES AND UNIVERSITIES* BY DISCIPLINE (MAJOR FIELD) AND RANK 1988-89

DISCIPLINE / MAJOR FIELD	R A N K											
	Professor		Associate Professor		Asst. Professor		New Asst. Prof.		Instructor		All Ranks	
	No.	Salary	No.	Salary	No.	Salary	No.	Salary	No.	Salary	No.	Salary
HEALTH PROFESSIONS												
Nursing	209	\$45,492	623	\$35,227	1,323	\$29,465	158	\$27,317	432	\$24,399	2,587	\$31,301
Speech Pathology & Audiology	161	44,734	151	36,092	152	28,301	23	26,991	42	23,322	506	35,441
HOME ECONOMICS	192	44,128	262	34,985	335	29,094	37	27,129	128	22,594	917	33,036
INTERDISCIPLINARY STUDIES	117	45,055	127	36,588	131	28,185	19	26,136	34	24,908	409	35,347
LETTERS	1,965	43,373	1,612	34,648	1,572	27,692	271	25,511	680	20,840	5,829	34,102
Philosophy & Religion	433	44,808	317	35,138	223	28,521	39	27,144	21	22,365	994	37,596
LIBRARY AND ARCHIVAL SCIENCES	66	45,146	97	34,751	172	28,316	15	25,982	69	21,406	404	31,430
MATHEMATICS	1,358	45,813	1,258	36,686	1,254	30,367	191	29,795	468	22,031	4,338	36,135
PHYSICAL SCIENCES												
Chemistry	1,106	45,678	488	36,019	410	29,434	68	28,558	48	22,017	2,052	39,582
Geological Sciences	358	45,277	235	35,931	149	29,583	25	27,226	19	23,221	761	38,767
Physical Science	268	44,402	181	34,916	152	29,321	26	27,332	22	22,810	623	37,204
Physics	733	46,294	407	37,437	298	30,879	68	29,792	35	22,863	1,473	40,171
PSYCHOLOGY	1,343	44,640	940	35,544	680	28,776	137	26,978	69	23,317	3,032	37,777
PUBLIC AFFAIRS & SERVICES	107	43,600	129	35,300	158	28,909	22	28,747	26	22,208	420	34,200
SOCIAL SCIENCES	471	44,984	416	35,093	387	28,977	64	27,505	64	23,178	1,338	36,236
Anthropology	220	44,869	142	34,341	102	28,534	15	25,776	7	26,365	471	37,882
Geography	333	44,798	217	35,278	179	29,080	29	27,645	29	22,905	758	37,523
History	1,414	44,429	626	35,207	404	27,732	99	25,772	56	22,798	2,500	38,937
Political Science	674	44,580	436	35,016	358	28,195	78	26,125	49	23,191	1,517	37,273
Sociology	647	44,589	604	35,638	413	28,165	86	26,107	58	23,012	1,722	36,821
HEALTH SERVICES & PARAMEDICAL TECH.												
Health Services Technologies	87	45,439	152	35,915	219	28,406	23	27,520	75	24,225	533	32,739
Occupational Therapy Technology	8	44,368	19	34,733	26	30,729	1	34,500	9	25,387	62	32,940
Physical Therapy Technology	8	47,144	35	38,287	65	30,662	15	30,368	9	28,122	117	33,874
ALL DISCIPLINES	25,784	45,375	21,441	36,665	20,460	30,427	3,384	29,379	5,727	23,610	73,412	36,967

*Includes 281 Institutions.

SOURCE: College and University Personnel Association, 1988-89 National Faculty Salary Survey by Discipline and Rank in Private Colleges and Universities.

TABLE 191

AVERAGE FACULTY SALARIES FOR PRIVATE COLLEGES AND UNIVERSITIES* BY DISCIPLINE (MAJOR FIELD) AND RANK, 1988-89

DISCIPLINE/MAJOR FIELD	RANK											
	Professor		Associate Professor		Asst. Professor		New Asst. Professor		Instructor		All Ranks	
	No.	Salary	No.	Salary	No.	Salary	No.	Salary	No.	Salary	No.	Salary
AGRICULTURE & NATURAL RESOURCES	8	\$38,434	10	\$27,172	7	\$26,677	2	\$28,400			25	\$30,637
ARCHITECTURE & ENVIRONMENTAL DESIGN	103	50,252	106	38,157	87	29,338	14	25,000	17	\$21,058	313	38,757
AREA STUDIES	40	47,111	32	39,303	19	27,300	2	29,125	3	23,745	94	39,702
BIOLOGICAL SCIENCES	948	43,192	643	32,658	468	27,449	79	26,800	67	21,384	2,126	35,853
BUSINESS AND MANAGEMENT	401	52,445	441	41,816	538	34,723	67	35,522	116	26,404	1,496	40,919
Accounting	214	50,310	349	41,020	427	34,285	62	36,587	91	24,249	1,081	38,787
Business Economics	254	47,595	339	37,549	364	31,636	59	32,554	50	25,863	1,007	37,365
Business Mgmt. & Administration	482	54,363	664	40,185	709	33,886	110	33,537	128	24,954	1,983	40,396
Secretarial & Related Programs	8	33,801	18	29,899	23	26,102			35	18,464	84	24,466
COMMUNICATIONS	218	42,738	341	35,189	444	27,387	83	26,648	117	22,973	1,120	32,289
Communication Technologies	19	40,960	25	32,611	64	27,791	6	25,900	7	18,566	115	30,453
COMPUTER & INFORMATION SCIENCES	232	49,803	346	39,162	496	32,153	57	33,513	134	25,154	1,208	36,774
EDUCATION	514	42,236	471	33,110	448	26,745	80	25,764	103	20,663	1,536	33,470
Curriculum & Instruction	35	45,502	46	36,746	42	26,471	6	28,583	8	22,651	131	34,930
Education Administration	17	48,038	16	33,999	11	27,662	3	28,033			44	37,839
Physical Education	210	38,583	397	32,013	403	26,390	30	24,468	268	22,332	1,278	29,289
Reading Education	6	33,713	11	31,721	7	25,157			4	17,750	28	28,511
Special Education	34	41,017	45	32,683	46	25,009	12	25,160	10	19,797	135	31,212
Student Counseling & Personnel	40	44,378	38	35,527	15	28,618	4	27,750	2	21,101	95	37,859
Teacher Education, General Programs	146	37,159	163	30,314	187	25,412	37	25,042	33	21,122	529	29,897
ENGINEERING	1,191	61,218	699	45,168	591	39,003	74	37,473	41	28,475	2,522	51,031
Engineering Technologies	37	40,775	62	35,283	70	30,603	7	28,553	17	25,214	186	33,694
FINE AND APPLIED ARTS												
Dramatic Arts	156	40,024	189	31,825	244	26,175	25	24,519	58	22,540	647	30,839
Fine Arts	284	40,347	307	31,190	271	25,828	32	24,305	55	22,132	917	31,898
Music	583	39,332	578	30,838	484	25,648	51	25,591	101	21,562	1,746	31,698
Visual & Performing Arts	199	41,141	199	32,620	232	26,787	24	26,610	37	22,359	667	32,564
FOREIGN LANGUAGES	594	42,968	676	33,552	664	27,004	102	25,432	179	22,407	2,113	33,197
HEALTH PROFESSIONS												
Nursing	123	39,915	405	31,044	784	26,176	53	25,105	258	22,675	1,570	27,933
Speech Pathology & Audiology	33	47,227	32	34,594	40	29,124	6	27,500	7	22,209	112	35,588

SOURCE: College and University Personnel Association, 1988-89 National Faculty Salary Survey by Discipline and Rank in Private Colleges and Universities.

TABLE 191 (Continued)

AVERAGE FACULTY SALARIES FOR PRIVATE COLLEGES AND UNIVERSITIES* BY DISCIPLINE (MAJOR FIELD) AND RANK, 1988-89

DISCIPLINE/MAJOR FIELD	RANK											
	Professor		Associate Professor		Asst. Professor		New Asst. Professor		Instructor		All Ranks	
	No.	Salary	No.	Salary	No.	Salary	No.	Salary	No.	Salary	No.	Salary
HEALTH SERVICES & PARAMEDICAL TECH. Health Services Technologies	25	\$45,654	73	\$35,540	85	\$29,833	15	\$26,281	33	\$23,753	216	\$32,663
Occupational Therapy Technology	8	43,565	16	36,498	19	27,625	6	28,167	11	22,066	54	31,483
Physical Therapy Technology	2	34,700	22	36,164	39	30,465	7	27,925	10	26,573	73	31,765
HOME ECONOMICS	40	38,643	84	31,442	131	26,447	9	28,522	50	21,541	305	28,617
INTERDISCIPLINARY STUDIES	69	44,090	54	33,398	50	27,045	4	29,715	12	20,051	185	34,803
LETTERS	1,241	42,604	1,019	32,764	863	26,043	175	24,927	294	21,451	3,517	33,432
Philosophy & Religion	852	40,888	560	32,209	497	26,851	85	25,458	62	20,535	1,971	34,242
LIBRARY AND ARCHIVAL SCIENCES	31	41,744	68	31,793	77	26,532	7	35,612	22	21,193	198	30,127
MATHEMATICS	796	47,109	733	34,714	706	28,596	104	28,724	222	21,862	2,457	35,810
PHYSICAL SCIENCES	204	49,142	107	36,186	93	28,268	10	26,254	18	22,651	422	40,127
Chemistry	838	45,983	389	33,482	368	27,370	60	25,540	34	22,472	1,629	38,302
Geological Sciences	155	49,734	67	36,404	61	29,241	9	27,444	5	25,997	288	41,880
Physics	603	51,001	289	36,614	271	29,846	42	27,935	14	20,064	1,177	42,229
PSYCHOLOGY	711	43,782	632	33,161	512	27,111	82	25,962	53	21,276	1,908	35,165
PUBLIC AFFAIRS & SERVICES	18	45,484	16	31,347	13	27,392	4	26,098	9	19,248	56	33,028
SOCIAL SCIENCES	313	46,662	251	34,475	246	28,578	49	27,676	43	21,288	853	36,581
Anthropology	92	48,942	97	35,868	80	28,469	16	25,687	14	23,859	283	37,432
Geography	39	47,303	33	33,650	28	27,763	6	28,983	3	22,557	103	36,896
History	810	43,594	528	35,007	397	26,864	70	25,467	48	23,019	1,783	36,772
Political Science	457	47,115	344	34,692	307	27,868	57	26,881	38	24,154	1,146	37,468
Sociology	351	42,694	393	31,987	317	27,486	54	26,610	48	20,722	1,109	33,601
THEOLOGY	397	37,803	348	31,716	255	26,514	35	24,964	57	22,671	1,057	32,259
ALL DISCIPLINES	15,181	45,845	13,771	34,881	13,700	28,768	1,995	28,002	3,046	22,624	45,698	35,874

*Includes 470 institutions. NOTE: Blanks indicate less than 2 respondents.

TABLE 192

WEIGHTED AVERAGE SALARIES OF FACULTY BY ACADEMIC RANK, TYPE OF INSTITUTION (CATEGORY*) AND TYPE OF AFFILIATION, 1988 - 89

ACADEMIC RANK	ALL COMBINED		PUBLIC		PRIVATE INDEPENDENT		CHURCH-RELATED	
	AVERAGE SALARY	% INCREASE OVER 1987-88 +	AVERAGE SALARY	% INCREASE OVER 1987-88 +	AVERAGE SALARY	% INCREASE OVER 1987-88 +	AVERAGE SALARY	% INCREASE OVER 1987-88 +
CATEGORY I								
Professor	\$56,400	6.0	\$54,240	5.9	\$64,290	6.3	\$57,160	5.5
Associate Professor	40,300	5.8	39,570	5.7	43,680	6.1	41,180	5.3
Assistant Professor	34,010	6.2	33,400	6.1	36,650	7.1	33,840	5.7
Instructor	24,290	5.6	23,580	5.5	28,750	7.0	29,310	6.3
Lecturer	26,620		26,270		28,230		25,390	
All Ranks	44,440	6.0	43,010	5.9	50,760	6.4	43,380	5.5
CATEGORY II-A								
Professor	46,700	5.3	46,920	5.1	47,010	6.7	44,070	5.6
Associate Professor	37,110	5.6	37,350	5.6	37,050	5.8	35,570	5.5
Assistant Professor	30,710	5.9	30,900	5.8	30,400	6.1	29,920	6.0
Instructor	23,890	4.5	24,030	4.2	23,710	5.9	23,050	5.7
Lecturer	25,050		24,610		26,350		30,550	
All Ranks	37,720	5.5	38,080	5.3	37,220	6.2	35,610	5.7
CATEGORY II-B								
Professor	40,410	5.6	41,080	5.4	44,770	5.8	36,190	5.7
Associate Professor	32,570	5.7	34,250	5.2	34,120	6.1	30,120	5.7
Assistant Professor	26,940	5.5	28,380	4.6	27,910	6.3	25,210	5.6
Instructor	22,150	5.8	23,020	5.8	22,330	5.9	21,300	5.7
Lecturer	24,420		24,190		28,260		22,270	
All Ranks	32,030	5.6	32,910	5.1	34,580	6.0	29,350	5.7
CATEGORY III								
Professor	40,920	6.1	41,200	6.1	30,150	5.7	25,050	5.8
Associate Professor	34,240	4.7	34,450	4.7	26,560	3.7	22,960	7.3
Assistant Professor	29,190	5.5	29,510	5.4	22,810	5.8	21,650	7.5
Instructor	24,270	5.9	24,480	5.9	19,730	6.1	17,810	4.1
Lecturer	21,600		21,600					
All Ranks	33,200	5.5	33,500	5.5	24,650	5.2	21,940	7.1
CATEGORY IV								
No Rank	31,040	5.1	31,210	5.1	21,990	9.7	23,510	2.9
ALL CATEGORIES EXCEPT IV								
Professor	50,420	5.8	50,070	5.6	55,900	6.3	41,900	5.6
Associate Professor	37,530	5.7	37,890	5.6	38,800	6.0	33,560	5.6
Assistant Professor	31,160	6.0	31,680	5.8	31,930	6.6	27,590	5.7
Instructor	23,660	5.3	23,890	5.1	24,050	6.2	22,060	5.7
Lecturer	25,770		25,360		27,850		25,010	
All Ranks	39,410	5.8	39,640	5.7	42,410	6.3	33,180	5.6

* See original survey for definition of categories. + for continuing faculty only.

NOTE: Blanks indicate too few individuals to be meaningful. The percent increase for all ranks includes the rank of lecturer and the "no rank" categories.

TABLE 193

WEIGHTED AVERAGE COMPENSATION OF FACULTY BY ACADEMIC RANK, CATEGORY*
AND TYPE OF AFFILIATION, 1988-89

ACADEMIC RANK	ALL COMBINED	PUBLIC	PRIVATE INDEPENDENT	CHURCH- RELATED
	Average Compensation	Average Compensation	Average Compensation	Average Compensation
CATEGORY I				
Professor	\$68,540	\$65,630	\$79,100	69,810
Assoc. Professor	49,730	48,640	54,740	51,100
Ass't. Professor	41,880	41,150	45,180	41,140
Instructor	29,990	29,080	36,040	35,130
Lecturer	33,050	32,720	34,890	30,710
All Ranks	54,380	52,490	61,740	53,170
CATEGORY II-A				
Professor	57,160	57,290	58,100	54,300
Assoc. Professor	45,960	46,210	46,160	43,950
Ass't. Professor	37,950	38,300	37,240	36,660
Instructor	29,620	29,850	29,120	28,480
Lecturer	31,210	30,780	32,120	37,770
All Ranks	46,450	46,840	46,000	43,860
CATEGORY II-B				
Professor	49,950	49,920	55,980	44,770
Assoc. Professor	40,110	41,920	42,330	37,040
Ass't. Professor	32,880	34,930	34,110	30,520
Instructor	26,720	28,280	26,790	25,330
Lecturer	30,040	30,060	34,720	24,030
All Ranks	39,360	40,250	42,830	35,940
CATEGORY III				
Professor	50,910	51,280	36,850	29,560
Assoc. Professor	42,680	42,970	32,190	27,250
Ass't. Professor	36,910	37,370	27,770	26,120
Instructor	30,700	30,970	24,790	21,140
Lecturer	27,350	27,350		
All Ranks	41,570	41,980	30,130	26,170
CATEGORY IV				
No Rank	37,980	38,200	26,030	28,310
ALL CATEGORIES EXCEPT IV				
Professor	61,570	60,890	69,040	51,620
Assoc. Professor	46,380	46,740	48,410	41,410
Ass't. Professor	38,430	39,220	39,190	33,540
Instructor	29,240	29,710	29,450	26,500
Lecturer	32,020	31,640	34,300	30,270
All Ranks	48,420	48,630	52,440	40,690

*See original survey for definition of categories.

NOTE: Blanks indicate too few individuals for data to be meaningful. Sample includes 1,899 institutions

SOURCE: American Association of University Professors, *The Annual Report on the Economic Status of the Profession, 1988-89*. Special Issue, March - April, 1989

TABLE 194

WEIGHTED AVERAGE SALARIES OF FACULTY BY ACADEMIC RANK, CATEGORY*, TYPE OF AFFILIATION, AND SEX, 1988-89

ACADEMIC RANK	ALL COMBINED		PUBLIC		PRIVATE/INDEPENDENT		CHURCH RELATED	
	Men	Women	Men	Women	Men	Women	Men	Women
CATEGORY I								
Professor	\$56,890	\$50,970	\$54,690	\$49,250	\$64,970	\$56,930	\$57,670	\$52,480
Associate Professor	40,850	38,320	40,120	37,550	44,340	41,520	41,790	39,290
Assistant Professor	35,160	31,740	34,520	31,220	37,800	34,070	34,900	32,050
Instructor	25,600	23,190	24,710	22,710	29,620	27,450	32,020	26,840
Lecturer	28,750	24,530	28,360	24,230	30,250	25,980	27,870	26,840
CATEGORY II - A								
Professor	46,970	45,110	47,140	45,610	47,430	44,590	44,560	40,980
Associate Professor	37,570	35,780	37,730	36,240	37,800	34,890	36,150	33,920
Assistant Professor	31,480	29,540	31,610	29,800	31,280	29,030	30,840	28,440
Instructor	24,760	23,180	24,970	23,270	24,360	23,100	23,630	22,610
Lecturer	26,730	23,510	26,520	22,920	26,430	26,260	32,100	29,050
CATEGORY II - B								
Professor	40,780	38,410	41,310	39,810	45,190	42,490	36,600	34,040
Associate Professor	33,080	31,280	34,640	33,200	34,710	32,710	30,640	28,820
Assistant Professor	27,490	26,200	28,940	27,540	28,340	27,350	25,760	24,520
Instructor	22,800	21,590	23,900	22,150	22,580	22,120	21,870	20,870
Lecturer	25,050	23,850	25,010	23,320	28,150	28,330	21,810	18,980
CATEGORY III								
Professor	41,500	39,430	41,770	39,750	30,840	28,820	25,300	24,420
Associate Professor	35,020	32,980	35,220	33,210	27,480	25,280	23,950	21,820
Assistant Professor	29,980	28,270	30,250	28,630	23,700	22,110	22,440	20,810
Instructor	24,890	23,730	25,030	23,980	21,770	18,710		17,650
Lecturer	24,450	19,380	24,450	19,380				
CATEGORY IV								
No Rank	31,040	30,680	31,210	30,850	21,990	21,970	23,510	23,470
ALL CATEGORIES EXCEPT IV								
Professor	51,150	45,190	50,710	45,430	56,850	48,620	45,560	37,950
Associate Professor	38,200	35,550	38,520	36,030	39,630	36,450	34,230	31,780
Assistant Professor	32,230	29,440	32,680	30,020	33,150	29,880	28,490	26,340
Instructor	24,550	22,910	24,780	23,140	24,970	23,170	22,800	21,510
Lecturer	27,690	23,960	27,360	23,480	29,260	26,380	27,080	23,430

*See original survey for definition of categories. NOTE: Sample includes 1,887 institutions providing data by gender.
Blanks indicate too few individuals to be meaningful.

TABLE 195

WEIGHTED AVERAGE SALARIES OF FACULTY BY ACADEMIC RANK, CATEGORY*, AND REGION, 1988-89

ACADEMIC RANK	WEST		NORTH CENTRAL		NORTHEAST		SOUTH		
	Pacific	Mountain	West N. Central	East N. Central	Middle Atlantic	New England	West S. Central	East S. Central	South Atlantic
CATEGORY I									
Professor	\$61,540	\$47,760	\$50,090	\$55,320	\$62,490	\$63,520	\$53,120	\$49,560	\$56,500
Associate Professor	41,490	36,430	37,240	40,610	44,150	43,220	38,310	36,910	40,780
Assistant Professor	35,700	31,480	32,020	34,050	35,990	36,280	32,560	31,660	34,270
Instructor	25,240	25,050	22,750	23,140	25,270	29,750	22,340	23,280	25,420
Lecturer	29,350	25,830	21,100	25,870	28,480	30,840	23,910	23,490	26,340
All Ranks	49,820	39,410	40,870	43,920	48,200	49,980	41,150	39,340	43,920
CATEGORY II - A									
Professor	51,140	42,090	42,040	43,220	49,320	51,500	40,720	40,460	46,320
Associate Professor	39,290	34,960	34,320	35,800	39,560	40,220	33,840	33,560	37,390
Assistant Professor	31,990	29,450	28,860	30,130	32,180	32,850	28,950	28,510	31,520
Instructor	27,020	22,960	23,170	23,560	25,300	24,550	22,760	22,840	23,870
Lecturer	28,990	25,630	20,720	23,540	27,450	32,940	20,960	20,170	26,550
All Ranks	44,080	34,460	33,710	35,660	39,540	41,340	32,690	32,960	36,910
CATEGORY II - B									
Professor	44,110	38,590	37,280	38,560	45,070	47,970	36,630	35,410	39,210
Associate Professor	33,720	31,450	30,380	31,680	35,400	35,950	31,150	29,120	32,180
Assistant Professor	27,490	26,510	25,500	26,400	28,680	29,330	26,970	24,940	26,650
Instructor	24,350	21,570	21,710	22,630	23,780	24,660	22,390	20,520	22,550
Lecturer	23,590	22,100	22,570	22,920	27,840	31,090	21,090	19,440	23,970
All Ranks	34,850	31,900	29,590	31,390	34,900	36,550	30,080	28,620	31,410
CATEGORY III									
Professor	41,780	30,810	38,050	39,240	43,860	40,670	38,290	32,650	40,680
Associate Professor	41,060	27,820	32,990	33,880	36,700	33,990	32,850	27,430	34,060
Assistant Professor	32,410	25,370	26,680	28,240	30,920	29,700	28,630	24,100	28,990
Instructor	31,270	23,360	22,870	23,540	24,670	26,600	25,720	21,240	24,230
Lecturer	24,740	27,420		21,890	22,670	22,650	22,790		18,730
All Ranks	39,080	26,490	32,230	32,090	35,380	34,610	31,540	26,140	33,060
CATEGORY IV									
No Rank	34,660	29,770	29,590	34,650	39,030	26,180	28,020	29,860	27,680
ALL CATEGORIES EXCEPT IV									
Professor	54,930	45,550	44,710	49,430	53,640	55,940	47,520	43,720	49,890
Associate Professor	39,860	35,350	34,450	37,450	39,720	40,230	35,820	33,660	37,620
Assistant Professor	33,240	30,300	28,810	31,250	32,240	33,050	30,430	28,740	31,230
Instructor	26,350	23,560	22,560	23,200	24,740	26,690	23,040	22,200	24,030
Lecturer	28,810	25,660	21,050	24,740	27,680	30,940	23,240	21,840	25,150
All Ranks	45,750	37,060	35,330	39,080	41,020	43,520	36,700	34,330	38,590

*See original survey for definition of categories. Blanks indicate too few individuals to be meaningful. NOTE: Sample includes 1,887 institutions.

SOURCE: American Association of University Professors, *The Annual Report on the Economic Status of the Profession*, 1988-89, March - April 1989.

TABLE 196

AVERAGE SALARY, FRINGE BENEFITS, COMPENSATION AND PERCENT TENURED OF FULL-TIME FACULTY MEMBERS IN INSTITUTIONS OF HIGHER EDUCATION BY RANK, 1988-89

ACADEMIC RANK	Average Salary	Average Fringe Benefits	Average Compensation	Benefits As % of Salary	% Tenured
Professor	\$50,420	\$11,150	\$61,570	22.1	96
Associate Professor	37,530	8,850	46,380	23.6	83
Assistant Professor	31,160	7,270	38,430	23.3	20
Instructor	23,660	5,580	29,240	23.6	6
Lecturer	25,770	6,250	32,020	24.3	1
Other	28,920	6,630	35,550	22.9	19
All Ranks	39,410	9,010	48,420	22.9	65

SOURCE: U. S. Department of Education, National Center for Education Statistics, *Salaries, Tenure & Fringe Benefits of Full-Time Faculty*, 1987-88, Unpublished

TABLE 197

AVERAGE SALARY OF FULL-TIME INSTRUCTIONAL FACULTY IN HIGHER EDUCATION ON 9-10 MONTH CONTRACTS BY TYPE & CONTROL OF INSTITUTION AND RANK, 1987-88

ACADEMIC RANK & TYPE OF CONTROL	TYPE OF INSTITUTION	
	4-Year	2-Year
ALL RANKS		
Public	\$37,863	\$31,160
Private	35,449	21,518
PROFESSOR		
Public	47,914	39,516
Private	47,208	26,788
ASSOCIATE PROFESSOR		
Public	36,279	35,713
Private	33,765	24,071
ASSISTANT PROFESSOR		
Public	30,044	28,882
Private	27,877	21,450
INSTRUCTOR		
Public	22,636	25,943
Private	21,698	18,575
LECTURER		
Public	26,101	25,575
Private	25,769	
NO ACADEMIC RANK		
Public	27,171	30,004
Private	26,115	20,575

NOTE: Blanks indicate too few faculty for reliable results.

SOURCE: U.S. Department of Education, National Center of Education Statistics, *Salaries, Tenure & Fringe Benefits of Full-Time Faculty, 1987-88*, Unpublished.

TABLE 198

AVERAGE SALARY, OF FULL-TIME FACULTY IN INSTITUTIONS OF HIGHER EDUCATION ON 9-OR 10-MONTH CONTRACTS BY TYPE OF INSTITUTION AND SEX, 1987-88

TYPE OF INSTITUTION	Total	Men	Women
PUBLIC INSTITUTIONS			
4-Year	\$37,863	\$39,917	\$31,832
2-Year	31,160	32,230	29,527
PRIVATE INSTITUTIONS			
4-Year	35,449	37,948	28,970
2Year	21,518	22,575	20,608

TABLE 199

AVERAGE SALARY OF FULL-TIME INSTRUCTIONAL FACULTY IN HIGHER EDUCATION ON 9- OR 10- MONTH CONTRACTS BY ACADEMIC RANK AND SEX., 1987-88

ACADEMIC RANK	Salary	Women's Salary as % of Men's
ALL RANKS		
Men	\$37,906	
Women	30,292	79.9
PROFESSOR		
Men	47,786	
Women	42,447	88.8
ASSOCIATE PROFESSOR		
Men	35,975	
Women	33,811	94.0
ASSISTANT PROFESSOR		
Men	30,154	
Women	27,595	91.5
INSTRUCTOR		
Men	24,176	
Women	22,260	92.1
LECTURER		
Men	27,720	
Women	24,366	87.9
UNDESIGNATED OR NO ACADEMIC RANK		
Men	30,540	
Women	28,119	92.1

SOURCE: National Center for Education Statistics, *Salaries, Tenure & Fringe Benefits of Full-Time Instructional Faculty 1987-88, Preliminary Tables*

TABLE 200

AVERAGE SALARIES OF FULL-TIME INSTRUCTIONAL FACULTY ON 9-10 MONTH CONTRACTS IN ALL 4-YEAR INSTITUTIONS OF HIGHER EDUCATION BY STATE AND ACADEMIC RANK, 1987-88

STATE	ACADEMIC RANK						
	ALL RANKS	PROFESSOR	ASSOCIATE PROFESSOR	ASSISTANT PROFESSOR	INSTRUCTOR	LECTURER	NO ACADEMIC RANK
Alabama	\$32,205	\$42,673	\$32,701	\$27,690	\$22,108	\$21,963	\$21,450
Alaska	39,840	50,807	41,559	33,776	29,440		26,322
Arizona	40,089	51,262	38,061	31,950	23,647	25,444	20,134
Arkansas	29,855	38,376	31,114	26,453	20,837	15,193	14,607
California	45,898	54,466	39,340	32,328	25,330	32,231	31,826
Colorado	36,668	43,606	34,766	29,245	23,347	23,988	
Connecticut	42,503	54,119	38,735	31,495	25,622	29,377	
Delaware	36,516	50,023	36,743	29,908	21,654	20,299	
District of Columbia	38,962	51,395	36,390	29,821	23,696	26,198	20,653
Florida	35,520	45,436	33,342	28,556	21,636	27,442	22,292
Georgia	34,207	44,912	34,128	28,126	21,381	24,588	17,342
Hawaii	37,133	47,545	35,817	29,455	22,494		30,867
Idaho	31,257	37,197	30,829	27,252	24,136		24,509
Illinois	36,023	46,833	34,038	29,082	21,636	21,301	25,851
Indiana	35,038	45,361	34,126	28,300	19,865	22,621	26,933
Iowa	33,449	42,766	32,747	27,583	21,501	27,550	21,858
Kansas	30,961	39,089	29,762	25,307	20,286	21,001	
Kentucky	31,262	38,891	30,951	25,995	20,273	20,252	27,360
Louisiana	30,729	39,673	31,819	26,838	20,511	18,142	19,598
Maine	32,812	42,796	33,117	26,503	21,965	28,650	24,618
Maryland	38,366	50,902	37,923	30,708	23,049	27,213	30,421
Massachusetts	41,946	54,362	39,018	31,820	24,595	31,758	24,173
Michigan	36,969	46,343	35,527	30,069	22,157	25,008	28,004
Minnesota	34,860	45,412	34,063	27,759	22,753	27,625	14,561
Mississippi	28,938	37,130	30,085	25,930	20,284	18,547	
Missouri	32,076	41,228	31,746	27,325	21,340	19,582	22,937
Montana	29,051	34,757	28,373	24,609	20,201	23,231	20,450

NOTE: Blanks indicate no data available.

SOURCE: National Center for Education Statistics, *Salaries, Tenure & Fringe Benefits of Full-Time Instructional Faculty 1987-88, Preliminary Tables*

TABLE 200 (Continued)

AVERAGE SALARIES OF FULL-TIME INSTRUCTIONAL FACULTY ON 9-10 MONTH CONTRACTS IN ALL 4-YEAR INSTITUTIONS OF HIGHER EDUCATION BY STATE AND ACADEMIC RANK, 1987-88

STATE	ACADEMIC RANK						
	ALL RANKS	PROFESSOR	ASSOCIATE PROFESSOR	ASSISTANT PROFESSOR	INSTRUCTOR	LECTURER	NO ACADEMIC RANK
Nebraska	\$30,580	\$38,891	\$30,134	\$25,549	\$20,631	\$16,258	\$16,624
Nevada	37,565	47,057	37,807	31,890	28,989	24,536	21,395
New Hampshire	35,267	46,268	33,663	28,216	22,029	22,267	27,408
New Jersey	41,589	54,011	40,201	31,866	23,796	30,749	36,292
New Mexico	32,721	40,780	31,400	27,429	20,779	24,821	30,615
New York	40,821	53,024	39,219	31,320	24,877	29,207	30,269
North Carolina	34,112	44,791	33,789	28,646	21,783	23,641	27,131
North Dakota	29,297	36,244	30,344	25,806	21,646	21,311	14,779
Ohio	37,263	47,287	36,535	29,534	22,661	22,038	24,252
Oklahoma	32,900	41,894	33,340	28,534	22,654	20,123	21,582
Oregon	32,891	40,514	32,201	27,054	21,386	19,462	17,632
Pennsylvania	36,778	47,909	35,963	29,282	22,837	23,294	21,628
Rhode Island	37,615	45,717	35,715	29,258	25,014	28,357	34,583
South Carolina	32,559	41,571	32,671	26,990	20,451	24,653	22,290
South Dakota	27,474	35,344	28,275	24,355	19,806	16,885	18,910
Tennessee	34,052	42,787	32,993	27,579	21,335	21,886	20,629
Texas	35,703	46,417	34,509	29,338	22,055	22,636	22,614
Utah	33,846	42,344	32,106	27,150	21,736	20,443	
Vermont	33,214	45,273	32,866	26,903	22,586	25,210	23,215
Virginia	37,386	48,319	36,811	30,042	23,000	25,898	24,488
Washington	35,281	42,817	32,430	28,238	22,041	25,754	33,219
West Virginia	28,877	35,490	29,281	24,423	19,984	20,409	
Wisconsin	36,265	44,849	33,902	29,248	23,444	24,472	22,599
Wyoming	37,053	45,468	34,022	30,345	29,067	20,020	
50 States & D.C.	35,678	47,102	35,414	29,154	23,154	25,998	29,567

NOTE: Blanks indicate no data available.

SOURCE: National Science Foundation, *Characteristics of Doctoral Scientists and Engineers in the U.S., 1987*.

TABLE 201

NUMBER AND MEDIAN ANNUAL SALARIES OF EMPLOYED DOCTORAL SCIENTISTS AND ENGINEERS EMPLOYED
IN EDUCATIONAL INSTITUTIONS BY FIELD, 1983-1987

FIELD	1983				1985				1987			
	Number	%	% of total employed	Median annual salary	Number	%	% of total employed	Median annual salary	Number	%	% of total employed	Median annual salary
ALL FIELDS	196,050	100.0	53.1	\$36,200	211,611	100.0	52.9	\$40,600	218,697	100.0	52.2	\$45,900
PHYSICAL SCIENTISTS	27,931	14.2	43.7	37,200	29,700	14.0	44.0	41,000	30,310	13.9	44.2	48,000
Chemists	15,037	7.7	36.4	35,600	16,073	7.6	36.8	39,400	16,255	7.4	36.8	44,800
Physicists/Astronomers	12,894	6.6	56.8	40,100	13,627	6.4	57.4	45,100	14,055	6.4	57.3	51,400
MATHEMATICAL SCIENTISTS	13,244	6.8	80.9	35,600	13,560	6.4	80.9	40,300	13,674	6.3	81.9	45,300
Mathematicians	11,365	5.8	83.6	35,400	11,645	5.5	83.4	40,200	11,632	5.3	83.8	45,400
Statisticians	1,879	1.0	67.3	36,300	1,915	0.9	68.4	42,200	2,042	0.9	72.4	45,000
COMPUTER/INFO. SPECIALISTS	4,031	2.1	33.1	37,000	5,288	2.5	35.3	43,600	5,558	2.5	29.9	49,700
ENVIRONMENTAL SCIENTISTS	6,682	3.4	40.6	36,200	7,222	3.4	41.8	40,900	7,483	3.4	42.0	45,400
Earth Scientists	4,658	2.4	37.2	36,600	5,059	2.4	38.3	41,100	5,116	2.3	37.7	47,000
Oceanographers	1,082	0.6	62.1	31,700	1,200	0.6	61.3	39,600	1,306	0.6	64.1	39,900
Atmospheric Scientists	942	0.5	42.8	34,700	963	0.5	45.3	45,500	1,061	0.5	48.3	42,800
ENGINEERS	20,320	10.4	33.0	42,500	21,697	10.3	32.9	48,600	23,710	10.8	35.0	55,500
LIFE SCIENTISTS	58,096	30.0	63.5	35,700	63,595	30.1	62.4	39,900	66,415	30.4	61.9	44,300
Biological Scientists	38,046	19.4	68.9	34,800	40,688	19.2	68.0	38,500	41,723	19.1	67.3	42,700
Agricultural Scientists	8,189	4.2	56.3	35,900	8,597	4.1	55.4	39,500	8,883	4.1	56.2	44,200
Medical Scientists	12,671	6.5	54.9	38,900	14,310	6.8	54.1	43,200	15,809	7.2	53.4	48,000
PSYCHOLOGISTS	22,182	11.3	47.6	33,600	24,893	11.8	47.7	37,600	25,369	11.6	45.0	42,100
SOCIAL SCIENTISTS	42,754	21.8	72.1	34,400	45,656	21.6	71.3	38,600	46,178	21.1	70.1	43,600
Economists	11,362	5.8	67.0	37,600	11,821	5.6	65.9	42,500	11,778	5.4	66.0	48,000
Soc./Anthropologists	10,369	5.3	86.0	31,800	10,621	5.0	83.7	37,000	10,420	4.8	80.6	41,900
Other Social Scientists	21,023	10.7	69.3	33,800	23,214	11.0	69.5	36,900	23,980	11.0	68.3	42,400

Note: Percents may not add to 100 because of rounding. Median salaries computed for full-time civilians only. No median was computed for groups with fewer than 20 individuals reporting salary.

TABLE 202

**MEDIAN ANNUAL SALARIES OF DOCTORAL SCIENTISTS AND ENGINEERS WHO ARE
UNIVERSITY OR 4-YEAR COLLEGE TEACHERS BY FIELD, SALARY BASE AND ACADEMIC
RANK, 1987**

FIELD AND SALARY BASE	TOTAL	ACADEMIC RANK			
		Professor	Associate Professor	Assistant Professor	Other
ALL FIELDS					
Academic Year	\$37,800	\$45,400	\$34,500	\$29,200	\$28,900
Calendar Year	46,800	59,300	43,700	36,000	35,400
PHYSICAL SCIENTISTS					
Academic Year	39,000	44,800	32,800	27,500	
Calendar Year	50,900	60,700	43,100	35,400	38,000
CHEMISTS					
Academic Year	36,300	41,600	31,700	25,800	
Calendar Year	48,100	59,400	43,700	30,900	32,300
PHYSICISTS / ASTRONOMERS					
Academic Year	40,600	46,400	34,000	29,700	
Calendar Year	53,400	65,500	42,800	37,400	42,700
MATHEMATICAL SCIENTISTS					
Academic Year	38,000	45,700	34,700	27,900	
Calendar Year	45,900	52,800	40,200	31,400	
MATHEMATICIANS					
Academic Year	38,400	45,600	33,900	27,600	
Calendar Year	45,800	50,300	40,400	26,800	
STATISTICIANS					
Academic Year	36,600	47,900	36,200	29,600	
Calendar Year	49,000				
COMPUTER / INFORMATION SPECIALISTS					
Academic Year	40,800	50,500	41,000	38,100	
Calendar Year	50,100	70,100	45,500		48,800
ENVIRONMENTAL SCIENTISTS					
Academic Year	37,600	46,100	37,200	27,700	
Calendar Year	45,200	62,900	42,700	37,700	39,500
EARTH SCIENTISTS					
Academic Year	38,100	45,300	37,500	28,100	
Calendar Year	50,100	63,300	40,500	36,500	38,900
OCEANOGRAPHERS					
Academic Year	32,500				
Calendar Year	40,400	55,500			
ATMOSPHERIC SCIENTISTS					
Academic Year					
Calendar Year	44,100				40,500
ENGINEERS					
Academic Year	44,600	50,900	41,300	36,600	
Calendar Year	58,500	69,500	48,800	42,200	45,800
LIFE SCIENTISTS					
Academic Year	34,500	41,900	31,600	28,100	
Calendar Year	45,400	57,800	45,000	36,400	30,000
BIOLOGICAL SCIENTISTS					
Academic Year	34,700	42,100	31,000	27,600	
Calendar Year	44,000	57,800	44,900	35,800	28,800
AGRICULTURAL SCIENTISTS					
Academic Year	35,000	42,200	31,800		
Calendar Year	44,200	52,300	39,700	34,200	33,500

SOURCE: National Science Foundation, *Characteristics of Doctoral Scientists and Engineers in the United States, 1987*

TABLE 202 (Continued)

MEDIAN ANNUAL SALARIES OF DOCTORAL SCIENTISTS AND ENGINEERS WHO ARE UNIVERSITY OR 4-YEAR COLLEGE TEACHERS BY FIELD, SALARY BASE AND ACADEMIC RANK, 1987

FIELD AND SALARY BASE	TOTAL	ACADEMIC RANK			
		Professor	Associate Professor	Assistant Professor	Other
MEDICAL SCIENTISTS					
Academic Year	\$33,100	\$41,100	\$34,500	\$29,900	
Calendar Year	50,000	65,000	48,700	40,600	\$29,800
PSYCHOLOGISTS					
Academic Year	35,500	43,500	32,600	26,500	
Calendar Year	40,600	51,800	40,900	34,000	34,900
SOCIAL SCIENTISTS					
Academic Year	36,000	45,000	34,100	29,100	
Calendar Year	44,100	55,300	40,600	30,300	35,700
ECONOMISTS					
Academic Year	40,400	49,200	39,500	31,500	
Calendar Year	45,500	51,900	40,700	35,900	
SOCIOLOGISTS / ANTHROPOLOGISTS					
Academic Year	34,600	43,300	33,300	26,700	
Calendar Year	42,100	50,800	38,300	30,100	
OTHER SOCIAL SCIENTISTS					
Academic Year	35,100	44,400	33,300	27,100	
Calendar Year	44,400	57,300	42,100	28,100	31,700

NOTE: Includes Individuals reporting Teaching as their primary or secondary work activity. All median salaries were computed only for full-time employed civilians. No median was computed for groups with fewer than 20 individuals reporting salary.

SOURCE: American Chemical Society, *Salaries 1989 - Analysis of the American Chemical Society's 1989 Survey of Salaries and Employment*, July 1989.

TABLE 203

MEDIAN AND MEAN ANNUAL SALARIES OF Ph D. CHEMISTS* EMPLOYED FULL-TIME IN COLLEGES AND UNIVERSITIES BY WORK FUNCTION LENGTH OF CONTRACT AND ACADEMIC RANK, 1989

ACADEMIC RANK	WORK FUNCTION					
	TEACHING		RESEARCH		ADMINISTRATION	
	Median	Mean	Median	Mean	Median	Mean
Professor 9-10 Month	\$43,326	\$44,794	\$57,500	\$61,009	\$	\$
11-12 Month	56,500	54,821	70,000	73,705	70,000	72,747
Associate Professor 9-10 Month	35,000	35,778	37,000	37,067		
11-12 Month	40,188	41,390	50,000	52,156		
Assistant Professor 9-10 Month	28,250	29,203	33,000	34,272		
11-12 Month	30,500	32,374	39,550	41,208		
Instructor 9-10 Month	28,500	28,915				
11-12 Month			34,000	38,266		
Research Associate 11-12 Month			31,000	33,648		

*Includes only members of the American Chemical Society.
Blanks indicate fewer than 15 respondents.

SOURCE: American Chemical Society, *Salaries 1989 - Analysis of the American Chemical Society's 1989 Survey of Salaries and Employment*, July 1989.

TABLE 204

MEAN SALARIES OF FULL-TIME EMPLOYED Ph. D. ACADEMIC CHEMISTS*
ON 9-10 MONTH CONTRACTS BY ACADEMIC RANK AND YEARS SINCE B. S.,
1989

YEARS SINCE B. S.	ACADEMIC RANK		
	Professor	Associate Professor	Assistant Professor
5-9	\$	\$	\$30,000
10-14		37,000	32,000
15-19	47,900	35,200	29,000
20-24	46,035	35,475	
25-29	45,000	34,000	
30-34	50,050	38,000	
35-39	50,000		
> = 40	57,000		
TOTAL	48,000	35,800	30,000

*Includes only members of the American Chemical Society.
Blanks indicate fewer than 15 respondents.

TABLE 205

MEDIAN AND MEAN SALARIES OF Ph. D. CHEMISTS* ON 9-10 MONTH CONTRACTS EMPLOYED
FULL-TIME IN COLLEGES AND UNIVERSITIES BY WORK SPECIALTY AND ACADEMIC RANK, 1989

SPECIALTY	ACADEMIC RANK					
	PROFESSOR		ASSOCIATE PROFESSOR		ASSISTANT PROFESSOR	
	Median	Mean	Median	Mean	Median	Mean
Biochemistry	\$48,150	\$51,805	\$35,000	\$35,943	\$32,000	\$32,060
General	43,600	43,950	35,000	35,686		
Analytical	45,500	47,783	35,700	36,553	28,083	28,602
Inorganic	47,900	48,150	38,500	38,827	31,822	31,405
Organic	48,300	50,789	35,282	36,119	30,000	29,956
Physical	50,791	49,514	34,700	36,397	30,000	30,095
Polymer	55,400	57,021				
Other Chemical Science	50,000	51,340	36,000	37,698	34,250	34,762
TOTAL	48,000	49,938	35,800	36,814	30,000	31,086

* Includes only members of the American Chemical Society.
Blanks indicate fewer than 15 respondents.

SOURCE: American Chemical Society, *Salaries 1989 - Analysis of the American Chemical Society's 1989 Survey of Salaries and Employment*, July 1989.

TABLE 206

MEDIAN AND MEAN SALARIES OF FULL-TIME EMPLOYED Ph. D. CHEMISTS* BY TYPE OF ACADEMIC INSTITUTION, LENGTH OF CONTRACT AND RANK, 1989

TYPE OF INSTITUTION AND LENGTH OF CONTRACT	ACADEMIC RANK					
	PROFESSOR		ASSOCIATE PROFESSOR		ASSISTANT PROFESSOR	
	Median	Mean	Median	Mean	Median	Mean
BS-GRANTING 9-10 Month	\$40,000	\$40,780	\$34,000	\$33,926	\$26,800	\$27,217
11-12 Month	46,800	50,172				
MS-GRANTING 9-10 Month	45,300	45,555	33,500	35,364	28,540	28,621
11-12 Month	63,300	65,999				
Ph. D.-Granting 9-10 Month	54,500	57,005	38,964	39,510	33,000	34,366
11-12 Month	70,000	73,011	49,000	49,606	39,500	40,948
AA-GRANTING 9-10 Month	43,600	45,769				
MEDICAL SCHOOL 11-12 Month	72,000	78,156	52,050	56,107	40,000	41,429

* Includes only members of the American Chemical Society.
Blanks indicate less than 15 respondents.

SOURCE: American Chemical Society, *Salaries 1989 - Analysis of the American Chemical Society's 1989 Survey of Salaries and Employment*, July 1989.

TABLE 207

MEDIAN AND MEAN SALARIES OF FULL-TIME EMPLOYED Ph. D. CHEMISTS* ON 9-10 MONTH CONTRACTS BY ACADEMIC RANK AND SEX

ACADEMIC RANK	TOTAL			MEN			WOMEN		
	Number	Median	Mean	Number	Median	Mean	Number	Median	Mean
Professors	605	\$48,000	\$49,938	575	\$48,000	\$50,309	30	\$42,993	\$43,423
Associate Professors	205	35,800	36,814	175	36,055	37,165	30	33,500	34,765
Assistant Professors	181	30,000	31,086	146	31,000	31,759	35	27,000	28,279
Instructors	25	28,500	28,638	19	28,600	29,208	6		

* Includes only members of the American Chemical Society.

TABLE 208

MEDIAN AND MEAN SALARIES OF FULL-TIME EMPLOYED Ph. D. ACADEMIC CHEMISTS* ON 9-10 MONTH CONTRACTS BY GEOGRAPHICAL REGION AND ACADEMIC RANK, 1989

GEOGRAPHIC REGION	FULL PROFESSOR		ASSOCIATE PROFESSOR		ASSISTANT PROFESSOR	
	Median	Mean	Median	Mean	Median	Mean
Pacific	\$52,968	\$55,447	\$36,000	\$35,487	\$34,250	\$33,819
Mountain	45,000	47,982				
West North Central	44,700	44,915	32,176	33,167	30,000	28,665
West South Central	44,508	46,072	36,000	36,485	30,500	32,137
East North Central	47,000	48,977	35,300	37,850	30,000	31,288
East South Central	39,551	42,053	31,250	31,447		
Middle Atlantic	53,000	54,187	39,400	39,351	30,000	30,731
South Atlantic	43,600	46,976	37,000	37,454	30,000	30,851
New England	51,000	53,717	41,265	40,756		

* Includes only members of the American Chemical Society.

SOURCE: The American Mathematical Society *NOTICES*, Vol. 35, No. 9, November 1988

TABLE 209

NUMBER AND MEDIAN SALARY RANGES FOR DOCTORAL DEGREE MATHEMATICS TEACHERS
BY RANK AND TYPE OF INSTITUTION, 1987-88 AND 1988-89

TYPE OF INSTITUTION	RANK	1987-1988		1988-1989		MEDIAN RANGES	
		NUMBER OF FACULTY		NUMBER OF FACULTY			
		TOTAL	WOMEN	TOTAL	WOMEN		
Doctorate Granting Departments Group I*	Instructor/Lecturer	88	13	\$26,600-\$29,800	88	12	\$27,600-\$31,600
	Assistant Professor	161	12	29,900 - 34,300	163	11	31,600 - 35,600
	Associate Professor	186	12	37,000 - 43,400	194	14	38,900 - 45,500
	Professor	754	18	51,500 - 62,900	765	20	55,500 - 65,900
Doctorate Granting Departments Group II*	Instructor/Lecturer	31	9	20,800 - 29,300	35	6	21,400 - 31,000
	Assistant Professor	242	32	28,800 - 33,800	252	35	30,600 - 36,000
	Associate Professor	400	23	33,400 - 41,000	403	26	35,700 - 41,800
	Professor	729	25	46,200 - 57,000	744	25	48,700 - 61,300
Doctorate Granting Departments Group III*	Instructor/Lecturer	18	5		12	4	
	Assistant Professor	364	44	27,900 - 30,900	394	48	28,800 - 32,800
	Associate Professor	460	33	32,400 - 38,000	485	43	33,800 - 39,300
	Professor	667	23	41,000 - 50,600	678	19	43,900 - 53,000
Doctorate Granting Departments Group IV*	Instructor/Lecturer	13	8		11	6	
	Assistant Professor	126	28	31,000 - 34,400	131	28	32,200 - 36,100
	Associate Professor	150	15	36,500 - 41,700	154	17	38,200 - 44,200
	Professor	363	20	49,300 - 63,100	365	20	52,400 - 66,400
Doctorate Granting Departments Group V*	Instructor/Lecturer	1	1		1	1	
	Assistant Professor	20	1	31,800 - 37,800	20	1	36,300 - 40,300
	Associate Professor	20	0	37,200 - 47,900	19	0	41,300 - 50,100
	Professor	86	5	54,200 - 63,800	87	5	61,00 - 67,600
Doctorate Granting Departments Group VI*	Instructor/Lecturer	2	1		1	1	
	Assistant Professor	34	2	29,100 - 32,700	36	2	30,300 - 37,300
	Associate Professor	124	7	40,600 - 50,900	122	8	42,800 - 55,900
	Professor	172	4	49,900 - 67,300	177	4	49,900 - 70,700
Masters's Degree Granting Department	Instructor/Lecturer	30	8	26,100 - 33,600	29	7	30,000 - 35,400
	Assistant Professor	517	99	26,900 - 31,100	545	109	28,700 - 32,900
	Associate Professor	643	79	32,400 - 38,800	656	88	33,900 - 40,200
	Professor	881	55	38,700 - 48,000	893	63	40,900 - 49,900
Bachelor's Degree Granting Department	Instructor/Lecturer	15	5	21,500 - 28,500	18	5	22,100 - 30,000
	Assistant Professor	449	96	25,700 - 29,000	485	109	26,500 - 31,000
	Associate Professor	558	72	29,200 - 35,100	563	68	30,500 - 37,500
	Professor	646	67	33,100 - 44,000	678	75	35,200 - 47,300

* Group I and Group II include the leading departments of mathematics in the U.S. according to the 1982 assessment of Research-Doctorate Programs conducted by the Conference Board of Associated Research Councils in which departments were rated according to the quality of their graduate faculty. Group I is composed of 39 departments with scores in the 3.0 - 5.0 range. Group II is composed of 43 departments with scores in the 2.0 - 2.9 range. Group III is composed of the remaining U.S. departments reporting a doctoral program. Group IV contains U.S. departments (or programs) of statistics, Biostatistics and biometrics reporting a doctoral program. Group V contains U.S. departments (or programs) in applied mathematics/applied science. Group VI contains doctorate-granting departments (or programs) in the mathematical sciences in Canadian universities. Group M (Master's) contains U.S. departments granting a master's degree as the highest graduate degree. Group B (Bachelor's) contains U.S. departments granting a baccalaureate degree only.

SOURCE: The American Mathematical Society *NOTICES*, Vol. 35, No. 9, November 1988

TABLE 210

NUMBER AND MEDIAN SALARY RANGES FOR NON-DOCTORAL DEGREE MATHEMATICS TEACHERS BY RANK AND TYPE OF INSTITUTION, 1987-88 AND 1988-89

TYPE OF INSTITUTION	RANK	1987-1988			1988-1989		
		NUMBER OF FACULTY		MEDIAN RANGES	NUMBER OF FACULTY		MEDIAN RANGES
		TOTAL	WOMEN		TOTAL	WOMEN	
Doctorate Granting Departments - Group III*	Instructor/Lecturer	109	60	\$17,300-\$22,100	96	64	\$18,700-\$22,900
	Assistant Professor	32	13	23,500 - 30,900	27	11	24,500 - 34,400
	Associate Professor	21	2	30,500 - 40,500	19	1	31,500 - 43,800
	Professor	9	0		8	0	
Masters's Degree Granting Departments	Instructor/Lecturer	332	201	18,800 - 23,500	330	199	19,400 - 26,300
	Assistant Professor	201	60	27,300 - 33,300	200	58	28,600 - 33,700
	Associate Professor	132	19	31,000 - 39,200	130	20	32,300 - 41,400
	Professor	47	4	41,100 - 53,000	48	5	42,400 - 53,000
Bachelor's Degree Granting Departments	Instructor/Lecturer	314	156	20,000 - 23,700	296	153	20,600 - 25,000
	Assistant Professor	363	113	23,100 - 28,500	350	116	24,000 - 30,500
	Associate Professor	197	40	27,000 - 35,800	191	41	28,500 - 38,800
	Professor	54	8	33,900 - 43,200	55	9	33,100 - 44,800

* Please see footnote on following table.

SOURCE: American Institute of Physics, 1987 Salaries, Society Membership Survey, Unpublished

TABLE 211

1987 SALARIES OF PH.D. PHYSICISTS* EMPLOYED IN FOUR-YEAR COLLEGES ON 9-10 MONTH CONTRACTS BY ACADEMIC RANK

ACADEMIC RANK	NUMBER	MEDIAN	MEAN
Professor	67	\$40,000	\$39,800
Associate Professor	49	32,000	32,800
Assistant Professor	25	26,500	27,500

*Includes only members of the AIP member societies.

TABLE 212

1987 SALARIES OF PH.D. PHYSICISTS* EMPLOYED IN UNIVERSITIES BY RANK AND LENGTH OF CONTRACT

ACADEMIC RANK	9-10 MONTH			11-12 MONTH		
	NO.	MEDIAN	MEAN	NO.	MEDIAN	MEAN
Professor	519	\$50,000	\$52,100	202	\$64,200	\$66,600
Associate Professor	163	37,500	38,500	72	50,000	55,500
Assistant Professor	113	31,300	32,500	56	42,000	43,400
Postdoctorates				82	23,000	23,500
Other Research Staff				65	40,000	40,600

* Includes only members of the AIP member societies.

SOURCE: American Psychological Association, 1988-89 Faculty Salaries in Graduate Departments of Psychology, February 1989.

TABLE 213

NUMBER, MEAN AND MEDIAN 9-MONTH SALARIES OF FULL-TIME FACULTY IN U.S. DOCTORAL DEPARTMENTS OF PSYCHOLOGY* BY GEOGRAPHIC REGION, RANK AND YEARS IN RANK, 1988-89

GEOGRAPHIC REGION	ACADEMIC RANK AND YEARS IN RANK								
	FULL PROFESSOR				ASSOCIATE PROFESSOR			ASSISTANT PROFESSOR	
	12 + Years	6-11 Years	3-5 Years	<3 Years	6 + Years	3-5 Years	<3 Years	3 + Years	<3 Years
NEW ENGLAND (20 Depts.) No. Mean Median	103 \$62,389 62,220	46 \$55,264 53,622	19 \$49,490 49,230	24 \$50,294 47,896	52 \$41,591 41,062	22 \$38,860 38,562	28 \$36,300 36,400	36 \$33,344 32,625	34 \$31,456 31,100
MIDDLE ATLANTIC (48 Depts.) No. Mean Median	237 62,716 63,402	89 58,143 60,000	42 54,709 50,966	65 51,428 51,825	147 44,634 44,975	66 42,922 42,352	54 39,423 38,938	101 33,536 33,000	91 30,829 30,910
EAST NORTH CENTRAL (48 Depts.) No. Mean Median	250 54,321 52,093	120 52,441 50,000	58 47,369 45,710	72 48,134 45,900	145 39,061 38,500	54 39,621 38,314	77 37,962 37,143	102 33,180 32,020	129 30,102 29,061
WEST NORTH CENTRAL (24 Depts.) No. Mean Median	142 50,556 49,230	59 48,184 46,926	23 42,613 39,616	19 41,380 40,000	49 37,687 36,300	28 37,503 37,443	34 35,813 34,455	25 30,680 29,890	55 29,785 29,550
SOUTH ATLANTIC (39 Depts.) No. Mean Median	174 57,080 56,506	110 51,996 51,644	41 46,979 47,114	45 45,676 44,250	131 38,780 38,800	76 38,110 37,328	63 35,162 35,000	54 31,705 30,725	80 29,710 29,925
EAST SOUTH CENTRAL (18 Depts.) No. Mean Median	75 51,047 49,375	43 48,288 45,695	21 43,610 42,600	9 - -	28 34,487 33,302	22 36,884 35,710	26 33,958 32,209	19 30,249 30,500	39 28,284 27,550
WEST SOUTH CENTRAL (22 Depts.) No. Mean Median	71 48,487 47,100	52 49,971 46,090	27 45,958 45,495	23 45,045 41,585	70 35,200 34,450	32 36,899 36,255	35 35,723 34,900	32 36,506 30,223	65 29,076 29,106
MOUNTAIN (22 Depts.) No. Mean Median	98 52,128 51,187	58 49,464 47,358	16 43,754 43,824	30 47,717 46,060	46 36,937 37,388	25 35,760 35,746	19 34,759 31,657	30 29,761 29,275	40 29,521 28,000
PACIFIC (32 Depts.) No. Mean Median	164 63,423 61,450	96 53,088 52,968	39 46,260 45,540	26 48,787 46,625	53 37,327 36,096	28 38,836 39,980	47 36,014 36,096	40 34,405 35,400	66 29,687 30,249

*Includes departments, schools, Interdisciplinary programs, or other academic units offering a graduate degree in one or more areas of psychology.

SOURCE: American Psychological Association, 1988-89 Faculty Salaries in Graduate Departments of Psychology.

TABLE 214

NUMBER, MEAN, AND MEDIAN 9-MONTH SALARIES OF FULL-TIME DOCTORAL FACULTY IN U.S. MASTER'S DEPARTMENTS OF PSYCHOLOGY* BY GEOGRAPHIC REGION, RANK AND YEARS IN RANK, 1988-89

GEOGRAPHIC REGION	ACADEMIC RANK AND YEARS IN RANK									
	FULL PROFESSOR				ASSOCIATE PROFESSOR			ASSISTANT PROFESSOR		ALL RANKS
	12 + Years	6-11 Years	3-5 Years	<3 Years	6+ YEARS	3-5 Years	<3 Years	3+ Years	<3 Years	All Years
MIDDLE ATLANTIC (14 Depts.) No.	42	23	18		43	15	12	20	13	192
Mean	\$50,167	\$47,514	\$43,806		\$40,284	\$35,823	\$34,826	\$34,616	\$29,430	\$41,705
Median	50,000	47,915	42,870		40,580	35,000	34,500	36,350	28,500	42,000
EAST NORTH CENTRAL (18 Depts.) No.	49	41	15	20	32	18	20	11	34	241
Mean	45,645	40,112	36,142	37,245	35,349	32,742	31,057	27,846	26,314	26,245
Median	44,088	39,400	36,819	36,289	34,498	32,000	30,372	27,846	27,015	36,000
SOUTH ATLANTIC (22 Depts.) No.	45	28	23	18	45	22	27	22	28	264
Mean	46,493	43,340	41,456	40,024	35,628	33,423	31,754	27,906	26,311	36,716
Median	45,611	42,992	42,500	39,335	34,823	33,989	31,002	27,324	26,300	35,536
EAST SOUTH CENTRAL (9 Depts.) No.	10	16	11		14		10	10	17	101
Mean	38,453	40,242	39,832		31,171		30,079	25,956	24,226	32,824
Median	36,655	41,802	40,275		31,355		28,521	25,946	24,295	32,500
WEST SOUTH CENTRAL (13 Depts.) No.	15	12			18			14		99
Mean	41,928	38,899			33,976			30,674		34,788
Median	41,000	38,350			32,169			29,000		34,000
PACIFIC (12 Depts.) No.	77	60	11	15	22	10		11	15	232
Mean	49,155	50,258	47,404	43,453	36,734	34,139		32,924	29,762	44,549
Median	52,968	52,968	50,544	45,984	34,804	33,792		33,000	30,000	48,204

*Includes departments, schools, interdisciplinary programs, or other academic units offering a graduate degree in one or more areas of psychology.

NOTE: Blanks indicate insufficient data.

TABLE 215

**NUMBER, MEAN AND MEDIAN 9-MONTH SALARIES OF FULL-TIME FACULTY IN U.S. DOCTORAL
DEPARTMENTS OF PSYCHOLOGY BY TYPE OF DEPARTMENT, RANK AND YEARS IN RANK,
1988-89**

DEPARTMENT	ACADEMIC RANK AND YEARS IN RANK										
	Full Professor				Associate Professor			Assistant Professor		Lecturer or Instructor	
	12 + Years	6-11 Years	3-5 Years	<3 Years	6 + Years	3-5 Years	<3 Years	3 + Years	<3 Years	3 + Years	<3 Years
PSYCHOLOGY (173 Depts.) No. Mean Median	1,045 \$58,181 56,219	524 \$53,320 52,291	221 \$48,343 47,626	251 \$48,755 46,750	536 \$39,459 38,941	254 \$38,975 38,899	280 \$36,766 36,096	333 \$32,768 32,000	447 \$30,134 30,000	18 \$34,170 30,524	15 \$29,539 30,500
EDUCATIONAL/COUNSELING /SCHOOL (67 Depts.) No. Mean Median	213 51,592 50,160	113 47,945 46,700	42 45,608 44,096	29 44,187 42,700	120 39,540 38,664	56 38,241 37,494	56 35,910 36,304	57 31,461 30,250	97 29,343 29,000		
HUMAN DEVELOPMENT (10 Depts.) No. Mean Median	28 54,600 54,312	11 53,807 55,300		17 46,306 45,300	24 37,658 35,847	14 38,386 37,018	17 35,621 35,000	19 29,635 29,064	26 28,559 28,360		
PROFESSIONAL SCHOOL (16 Depts.) No. Mean Median	22 50,671 47,092	22 50,018 45,865	13 37,308 37,137	11 37,083 34,994	32 38,343 37,814	22 37,789 35,717	24 33,680 32,164	23 30,197 30,266	24 27,498 27,233		

SOURCE: American Psychological Association, *1988-89 Faculty Salaries in Graduate Departments of Psychology*, February 1989

TABLE 216

NUMBER, MEDIAN AND MEAN 9-MONTH SALARIES OF FULL-TIME FACULTY IN U.S. DEPARTMENTS OF PSYCHOLOGY BY RANK, TYPE OF DEPARTMENT AND YEARS IN RANK, 1988-89

YEARS IN RANK AND TYPE OF DEPARTMENT	Full Professor			Associate Professor			Assistant Professor		
	No.	Median	Mean	No.	Median	Mean	No.	Median	Mean
AT LEAST 12 YEARS									
Doctoral	1,314	\$54,885	\$56,896						
Master's	292	47,900	47,445						
6-11 YEARS									
Doctoral	673	50,962	52,322						
Master's	234	43,942	44,302						
AT LEAST 6 YEARS									
Doctoral				721	\$38,800	\$39,420			
Master's				225	35,594	36,895			
3-5 YEARS									
Doctoral	286	46,350	47,387	353	38,200	38,945			
Master's	103	41,327	41,911	110	33,100	33,956			
AT LEAST 3 YEARS									
Doctoral							439	\$31,745	\$32,508
Master's							141	28,875	30,226
LESS THAN 3 YEARS									
Doctoral	313	46,489	48,203	383	36,000	36,521	608	29,550	29,888
Master's	98	39,580	39,550	114	31,115	31,969	161	26,670	27,046
ALL YEARS									
Doctoral	2,586	51,560	53,602	1,457	37,800	38,543	1,047	30,300	30,987
Master's	727	44,000	44,585	449	33,946	34,924	302	27,494	28,531

SOURCE: American Psychological Association, *Salaries in Psychology 1987*.

TABLE 217

**MEDIAN AND MEAN 9-10 MONTH SALARIES FOR DOCTORAL-LEVEL PSYCHOLOGISTS + IN
FACULTY POSITIONS BY EMPLOYMENT SETTING AND ACADEMIC RANK, 1987**

EMPLOYMENT SETTING	ACADEMIC RANK					
	FULL PROFESSOR		ASSOCIATE PROFESSOR		ASSISTANT PROFESSOR	
	MEDIAN	MEAN	MEDIAN	MEAN	MEDIAN	MEAN
University Psychology Department	\$45,000	\$46,771	\$33,000	\$33,786	\$27,000	\$27,060
University Education Department	43,000	43,722	33,000	33,916	26,000	27,192
University Business School or Department	54,000	56,006	41,000	42,154	35,000	35,686
University Other Academic Department	48,000	49,141	33,000	34,176	26,000	25,862
University, Other Setting	45,000	45,826				
Four Year College Psychology Department	39,000	39,341	29,000	28,925	25,000	25,752
Two Year College	40,000	39,331	32,500	32,245		
Medical School Psychiatry Department*	54,000	55,011	42,545	46,324	31,091	31,620
Medical School Other Department*	51,955	52,732	42,545	42,889	29,455	30,574

+ Members of the American Psychological Association.

* Salaries in these settings are often paid on as 11-12 month Basis. Therefore, the 9-10 month salaries reported here may be converted to 11-12 month salaries by multiplying by 11/9.

Note: Blanks indicate fewer than 5 respondents.

SOURCE: American Geological Institute, *1988-89 Geoscience Faculty Salary Survey*, May 1989

TABLE 218

SALARIES OF GEOSCIENCE FACULTY BY RANK, 1988-89

RANK	Number	1988-89		1987-88 Mean
		Median	Mean	
Assistant Professor	159	\$31,700	\$32,346	\$30,148
Associate Professor	223	38,900	38,964	37,013
Professor	421	52,692	53,370	50,284
All Ranks	803	42,750	45,206	42,792

SOURCE: Engineering Manpower Commission of American Ass'n. of Engineering Societies, *Salaries of Engineers in Education, 1988*.

TABLE 219

NUMBER OF MEDIAN ANNUAL SALARIES OF FACULTY IN ALL SCHOOLS ON ALL CONTRACTS, BY RANK AND
SELECTED YEARS SINCE BACCALAUREATE, 1988

RANK	YEARS SINCE BACCALAUREATE									
	5	7	9-11	15-17	18-20	21-23	24-26	27-29	33 +	OVERALL
Professors			(25) \$43,300	(141) \$54,700	(284) \$55,900	(531) \$56,150	(702) \$56,200	(742) \$56,200	(1,705) \$56,200	(5,138) \$55,900
Associate Professors		(10) \$45,500	(151) 45,050	(553) 44,050	(481) 43,500	(405) 42,900	(335) 42,300	(272) 41,700	(364) 39,250	(3,296) 42,900
Assistant Professors	(89) \$40,300	(257) 39,800	(737) 39,100	(329) 38,050	(161) 37,100	(88) 37,400	(63) 37,150	(74) 37,050	(116) 37,200	(3,023) 39,000
Instructors	(35) 30,000	(21) 30,600	(89) 31,400	(55) 32,900	(33) 33,600	(36) 34,200	(34) 34,700	(27) 35,150	(71) 35,950	(637) 32,350
Administrative			(14) 43,700	(35) 52,650	(68) 57,150	(102) 61,450	(126) 65,150	(135) 68,000	(199) 67,350	(861) 65,000
Researchers	(43) 28,000	(58) 29,650	(120) 32,250	(99) 37,800	(84) 40,600	(50) 43,250	(53) 45,650	(36) 47,600	(92) 49,200	(979) 35,250

SOURCE: Engineering Manpower Commission of American Ass'n. of Engineering Societies, *Salaries of Engineers in Education, 1988*.

TABLE 220

NUMBER OF MEDIAN ANNUAL SALARIES OF FACULTY IN ALL ENGINEERING SCHOOLS ON ALL CONTRACTS,
BY RANK AND SELECTED YEARS SINCE BACCALAUREATE, 1988

RANK	YEARS SINCE BACCALAUREATE									
	7	9-11	12-14	15-17	18-20	21-23	24-26	27-29	33 +	OVERALL
Professors		(22) \$44,050	(55) \$51,700	(135) \$55,500	(272) \$56,450	(511) \$56,600	(673) \$56,650	(711) \$56,650	(904) \$56,650	(4,933) \$56,400
Associate Professors		(27) 45,500	(415) 45,050	(518) 44,550	(449) 44,050	(365) 43,500	(291) 42,950	(248) 32,350	(321) 40,000	(3,009) 43,500
Assistant Professors	(250) \$39,800	(708) 39,350	(532) 39,100	(297) 38,900	(139) 38,900	(66) 38,950	(46) 39,100	(53) 39,300	(90) 40,400	(2,983) 39,400
Instructors	(19) 31,850	(71) 32,700	(46) 33,450	(36) 34,150	(22) 34,800	(23) 35,300	(23) 35,750	(17) 36,050	(54) 36,150	(481) 33,650
Administrative		(14) 44,300	(12) 48,950	(33) 53,850	(57) 58,700	(92) 63,250	(115) 67,200	(123) 70,150	(187) 68,450	(787) 66,750
Researchers	(58) 29,650	(120) 32,250	(104) 35,000	(99) 37,800	(84) 40,600	(50) 43,250	(53) 45,650	(36) 47,600	(92) 49,200	(979) 35,250

TABLE 221

NUMBER AND MEDIAN ANNUAL SALARIES OF FACULTY IN TECHNOLOGY SCHOOLS ON ALL CONTRACTS,
BY RANK AND SELECTED YEARS SINCE BACCALAUREATE, 1988

RANK	YEARS SINCE BACCLAUREATE								
	9-11	12-14	15-17	18-20	21-23	24-26	27-29	33 +	OVERALL
Professors				(12) \$36,450	(20) \$38,900	(29) \$40,850	(31) \$42,100	(69) \$39,550	(205) \$39,750
Associate Professors		(23) \$28,950	(35) \$30,950	(32) 32,700	(40) 34,150	(44) 35,050	(24) 35,450	(43) 31,900	(287) 33,150
Assistant Professors	(29) \$30,150	(25) 30,300	(32) 30,500	(22) 30,700	(22) 31,000	(17) 31,300	(21) 31,600	(26) 33,250	(240) 30,500
Instructors	(18) 26,600	(7) 27,850	(19) 29,100	(11) 30,250	(13) 31,300	(11) 32,200	(10) 32,950	(17) 34,100	(156) 29,300

Note: Blanks indicate no median salaries computed for fewer than 5 respondents.

SOURCE: Engineering Manpower Commission of American Ass'n. of Engineering Societies, *Salaries of Engineers in Education, 1988*

TABLE 222

MEDIAN AND MEAN SALARIES OF ENGINEERING FACULTY BY RANK, TYPE OF SCHOOL AND LENGTH OF CONTRACT, 1988

RANK	ALL SCHOOLS			ENGINEERING SCHOOLS			TECHNOLOGY SCHOOLS	
	All Contracts	9-10 Mo. Contract	11-12 Mo. Contract	All Contracts	9-10 Mo. Contracts	11-12 Mo. Contracts	All Contracts	9-10 Mo. Contracts
Professor Median Mean	\$55,900 57,600	\$55,500 57,100	\$64,200 67,450	\$ 56,400 58,250	\$55,950 57,750	\$65,100 68,400	\$39,750 41,500	\$39,600 41,450
Associate Professor Median Mean	42,900 43,200	42,550 42,600	52,200 52,750	43,500 44,100	43,100 43,400	53,900 54,900	33,150 33,900	32,550 33,650
Assistant Professor Median Mean	39,000 39,300	38,800 38,900	45,150 46,100	39,400 40,000	39,200 39,550	46,100 47,050	30,500 31,450	30,400 31,400
Instructor Median Mean	32,350 33,550	30,650 32,800	35,950 35,500	33,650 34,550	31,450 33,950	36,200 35,950	29,300 30,400	28,600 29,600
Researcher Median Mean	35,250 38,500	22,500 26,350	36,900 40,400	35,250 38,500	22,500 26,350	36,900 40,400		
Administrator Median Mean	65,000 67,150	59,600 64,350	65,750 67,500	66,750 68,950		67,450 69,400		

NOTE: Blanks indicate no median salaries computed for fewer than 5 respondents.

TABLE 223

**NUMBER AND AVERAGE SALARY OF FACULTY IN COLLEGES OF PHARMACY
BY TYPE OF INSTITUTION, DISCIPLINE, AND SEX, 1988 - 89**

DISCIPLINE & SEX	ALL SCHOOLS		PUBLIC		PRIVATE	
	No.	Salary	No.	Salary	No.	Salary
CALENDAR YEAR						
Biological Sciences	24	\$44,811	15	\$39,005	9	\$54,488
Male	17	48,999	10	41,960	7	59,056
Female	7	34,811	5	33,095	2	
ACADEMIC YEAR						
Biological Sciences	25	38,118	8	39,292	17	37,566
Male	19	39,411	7		12	40,233
Female	6	34,026	1		5	31,164
CALENDAR YEAR						
Medicinal/Pharm./Chem./Pharmacognsy	325	59,705	291	60,944	34	49,107
Male	306	60,582	276	61,723	30	50,076
Female	19	45,593	15	46,596	4	
ACADEMIC YEAR						
Medicinal/Pharm./Chem./Pharmacognsy	107	46,084	74	47,506	33	42,896
Male	104	46,289	71	47,866	33	42,896
Female	3		3		0	
CALENDAR YEAR						
Pharmacology	219	54,095	182	55,268	37	48,320
Male	193	55,599	161	56,848	32	49,315
Female	26	42,926	21	43,157	5	41,953
ACADEMIC YEAR						
Pharmacology	90	43,745	61	45,964	29	39,077
Male	79	44,537	54	46,788	25	39,676
Female	11	38,051	7	39,607	4	
CALENDAR YEAR						
Pharmaceutics/Pharmacy	296	55,767	246	56,715	50	51,100
Male	262	57,418	219	58,424	43	52,291
Female	34	43,044	27	42,853	7	43,780
ACADEMIC YEAR						
Pharmaceutics/Pharmacy	83	41,522	51	42,489	32	39,982
Male	71	42,348	42	43,286	29	40,989
Female	12	36,638	9	38,768	3	
CALENDAR YEAR						
Pharmacy Administration	185	51,358	146	52,055	39	48,750
Male	159	52,997	123	54,066	36	49,342
Female	26	41,337	23	41,296	3	
ACADEMIC YEAR						
Pharmacy Administration	37	40,026	15	43,146	22	37,899
Male	31	40,638	15	43,146	16	38,286
Female	6	36,865	0		6	36,865
CALENDAR YEAR						
Pharmacy Practice	726	45,296	519	46,423	207	42,472
Male	492	47,844	375	48,603	117	45,411
Female	234	39,940	144	40,745	90	38,652
ACADEMIC YEAR						
Pharmacy Practice	65	37,215	35	37,215	30	34,339
Male	40	38,287	21	38,287	19	31,086
Female	25	35,608	14	35,608	11	36,222

NOTE: Blanks indicate insufficient data.

SOURCE: American Association of Colleges of Pharmacy, *Annual Survey of Faculty Salaries, 1988-89*.

TABLE 224

NUMBER AND AVERAGE SALARY OF FACULTY IN COLLEGES OF PHARMACY BY
RANK, YEARS IN RANK AND SEX, 1988-89

RANK & SEX	YEARS IN RANK					TOTAL
	0-1 Yr.	2-5 Yrs.	6-10 Yrs.	11-15 Yrs.	16-20 Yrs.	
CALENDAR YEAR						
Dean	\$79,467	\$77,487	\$83,451	\$90,233	\$78,049	\$82,157
Male	79,467	77,487	83,451	90,233	78,049	82,157
Assistant/Associate Dean	57,211	56,903	58,934	64,440	67,025	60,829
Male	57,211	58,063	60,257	65,989	67,025	61,780
Female						48,470
Professor	56,950	59,460	63,955	68,066	66,548	63,965
Male	58,827	59,329	64,639	68,265	66,548	64,402
Female	42,690	61,882	51,766			53,561
Associate Professor	47,006	48,942	49,113	51,672	46,834	48,844
Male	47,899	49,581	49,001	51,641	46,834	49,186
Female	40,159	46,108	50,219	51,987		46,611
Assistant Professor	38,511	40,507	42,460	42,492		40,167
Male	38,604	40,995	42,829	43,113		40,689
Female	38,406	39,499	41,608			39,263
Instructor	29,795	35,069	34,979	36,206	36,977	33,371
Male	36,885	35,928		39,505		37,590
Female	27,431	34,123				30,157
Lecturer	35,828	38,233	40,953			38,071
Male	35,366					38,691
Female		37,291				37,314
ACADEMIC YEAR						
Professor	50,505	49,964	49,693	50,735	53,412	50,731
Male	50,636	50,830	49,944	50,610	53,412	51,021
Female		43,729				46,201
Associate Professor	38,465	38,323	41,259	42,183	39,395	39,532
Male	37,568	38,620	41,524	42,508		39,635
Female		37,209				39,026
Assistant Professor	33,198	32,757	35,193			33,171
Male	33,959	33,054	35,204			33,625
Female	30,915	32,178	35,179			32,187
Instructor	24,071	25,031				24,975
Male						25,690
Female	23,900					23,953

NOTE: Blanks indicate insufficient data.

SOURCE: American Association of Colleges of Pharmacy, *Annual Survey of Faculty Salaries, 1988-89*

TABLE 225

NUMBER AND AVERAGE SALARY OF FACULTY IN COLLEGES OF PHARMACY
BY TYPE OF INSTITUTION, RANK, AND SEX, 1988 - 89

RANK & SEX	ALL SCHOOLS		PUBLIC		PRIVATE	
	No.	Salary	No.	Salary	No.	Salary
CALENDAR YEAR						
Dean (Total)	71	\$82,157	52	\$84,882	19	\$74,699
Male	71	82,157	52	84,882	19	74,699
Assistant/Associate Dean	112	62,920	83	62,920	29	54,846
Male	104	63,843	77	63,843	27	55,895
Female	8	51,069	6	51,069	2	
Professor	472	63,965	401	66,029	71	52,311
Male	453	64,402	388	66,438	65	52,244
Female	19	53,561	13	53,803	6	53,037
Associate Professor	489	48,844	398	49,589	91	45,586
Male	424	49,186	352	49,765	72	46,358
Female	65	46,611	46	48,244	19	42,657
Assistant Professor	603	40,167	435	40,436	168	39,469
Male	382	40,689	296	40,842	86	40,164
Female	221	39,263	139	39,571	82	38,741
Instructor	74	33,371	55	33,648	19	32,570
Male	32	37,590	23	37,702	9	37,306
Female	42	30,157	32	30,735	10	28,308
Lecturer	8	29,190	1		7	29,350
Male	2		0		2	
Female	6	30,586	1		5	31,090
ACADEMIC YEAR						
Professor	166	50,731	103	53,764	63	45,772
Male	156	51,021	97	54,252	59	45,711
Female	10	46,201	6	45,880	4	
Associate Professor	141	39,532	78	40,956	63	37,768
Male	117	39,635	66	40,868	51	38,040
Female	24	39,532	12	41,440	12	36,612
Assistant Professor	114	33,171	62	34,325	52	31,795
Male	78	33,625	47	34,529	31	32,253
Female	36	32,187	15	33,682	21	31,118
Instructor	17	24,975	6	24,479	11	25,245
Male	10	25,690	4		6	26,633
Female	7	23,953	2		5	23,580

NOTE: Blanks indicate insufficient respondents.

SOURCE: American Association of Colleges of Pharmacy, *Annual Survey of Faculty Salaries, 1988-89*

TABLE 226

**NUMBER AND AVERAGE SALARY OF FACULTY IN COLLEGES OF PHARMACY
BY TYPE OF INSTITUTION, DEGREE LEVEL AND SEX, 1988 - 89**

DEGREE & SEX	ALL SCHOOLS		PUBLIC		PRIVATE	
	No.	Salary	No.	Salary	No.	Salary
CALENDAR YEAR						
B.S.	55	\$36,584	41	\$37,046	14	\$35,230
Male	29	39,663	20	40,803	9	37,128
Female	26	33,149	21	33,467	5	31,815
ACADEMIC YEAR						
B.S.	15	28,408	9	28,901	6	27,667
Male	11	28,659	6	28,875	5	
Female	4		3		1	
CALENDAR YEAR						
M.S.	145	43,979	101	44,355	44	43,117
Male	96	47,586	71	47,848	25	46,843
Female	49	36,913	30	36,089	19	38,215
ACADEMIC YEAR						
M.S.	36	34,034	7	33,961	29	34,051
Male	19	34,590	5	32,417	14	35,366
Female	17	33,412	2		15	32,824
CALENDAR YEAR						
Pharm. D.	594	44,903	417	46,010	177	42,295
Male	401	47,189	303	47,836	98	45,190
Female	193	40,154	114	41,159	79	38,704
ACADEMIC YEAR						
Pharm. D.	37	36,145	22	37,658	15	33,925
Male	22	38,245	13	39,771	9	36,042
Female	15	33,064	9	34,607	6	30,750
CALENDAR YEAR						
Ph. D.	1,032	56,327	867	57,503	165	50,144
Male	934	57,598	789	58,787	145	51,129
Female	98	44,211	78	44,522	20	42,998
ACADEMIC YEAR						
Ph. D.	344	43,286	209	45,659	209	39,614
Male	303	44,106	188	46,219	188	40,653
Female	41	37,229	21	40,647	21	39,614

NOTE: Blanks indicate insufficient data.

TABLE 227

NUMBER AND MEAN SALARY OF PHYSIOLOGY FACULTY BY RANK, TYPE OF INSTITUTION AND SEX, 1989

Rank & Type of Institution	Number of Faculty	Salary	% Change from 1987-88
CHAIRMAN			
All Schools	95	\$90,748	5.0
Medical Public	57	93,277	4.5
Medical Private	25	94,099	9.3
Nonmedical	13	70,377	1.1
PROFESSORS			
All Schools	546	68,145	4.8
Medical Public	370	67,721	3.3
Medical Private	125	71,578	7.9
Nonmedical	51	62,804	9.0
Women	(41)	68,528	7.0
ASSOCIATE PROFESSORS			
All Schools	398	49,817	5.6
Medical Public	241	49,665	3.4
Medical Private	109	50,786	9.4
Nonmedical	48	48,375	10.0
Women	(54)	49,124	7.0
ASSISTANT PROFESSORS			
All Schools	292	38,948	5.1
Medical Public	179	38,841	4.7
Medical Private	90	39,373	6.6
Nonmedical	23	38,120	2.8
Women	(49)	38,005	7.7
INSTRUCTORS			
All Schools	51	26,898	2.3
Medical Public	32	27,280	2.4
Medical Private	19	26,254	0.6
Women	(12)	25,692	14.1

SOURCE: The American Physiological Society, *The Physiologist*. Vol. 32, No. 2, April 1989

TABLE 228

**STARTING MEAN SALARIES OF PHYSIOLOGY FACULTY BY TYPE OF SCHOOL
AND ACADEMIC RANK, 1989**

TYPE OF SCHOOL	ACADEMIC RANK			
	Professor	Associate Professor	Assistant Professor	Instructor
ALL SCHOOLS	\$55,350	\$43,659	\$34,821	\$25,354
Medical Public	54,907	43,585	34,760	25,922
Medical Private	58,188	44,954	35,700	24,905
Nonmedical	50,777	40,982	32,867	23,850

TABLE 229

**NUMBER AND MEAN SALARY OF PHYSIOLOGY FACULTY BY RANK, AND
YEARS AT POSITION, 1989**

YEARS AT POSITION	ACADEMIC RANK							
	CHAIRMAN		PROFESSOR		ASSOCIATE PROFESSOR		ASSISTANT PROFESSOR	
	No. of Faculty	Salary	No. of Faculty	Salary	No. of Faculty	Salary	No. of Faculty	Salary
0-5	37	\$87,485	157	\$62,666	211	\$48,972	246	\$38,332
6-10	24	86,572	113	65,684	102	50,494	30	43,277
11-15	11	90,276	123	69,458	55	51,446	6	40,734
16-20	12	95,756	86	73,307	22	49,449	7	39,020
21-25	5	90,209	50	76,746	7	51,688	3	42,431
26 +	4	111,038	11	71,204				

SOURCE: The American Physiological Society, *The Physiologist*. Vol. 32, No. 2, April 1989

TABLE 230

NUMBER AND SALARIES OF PHYSIOLOGY FACULTY BY RANK, AND
GEOGRAPHIC REGION, 1989

RANK	GEOGRAPHIC REGION			
	Northeast	Midwest	South	West
CHAIRMAN Number of Faculty	20	24	33	13
Salary	\$96,370	\$89,797	\$90,485	\$90,718
PROFESSOR Number of Faculty	121	137	148	108
Salary	73,165	64,314	67,865	71,180
ASSOCIATE PROFESSOR Number of Faculty	93	91	147	45
Salary	52,152	48,378	49,187	50,505
ASSISTANT PROFESSOR Number of Faculty	67	82	93	33
Salary	38,576	39,265	38,845	40,478
INSTRUCTOR Number of Faculty	17	9	19	2
Salary	26,427	30,826	25,830	23,058

SOURCE: American Assembly of Collegiate Schools of Business, *1988-89 Salary Survey*, December 1988

TABLE 231

MEAN ANNUAL SALARIES OF BUSINESS FACULTY IN AACSB*
MEMBER SCHOOLS BY RANK AND SEX, 1988-89

RANK	TOTAL FACULTY		WOMEN FACULTY	
	Number Reporting	Mean Salary	Number Reporting	Mean Salary
Professor	7,239	\$56,900	408	\$49,500
Associate Professor	7,047	44,900	1,002	42,500
Assistant Professor	7,246	40,300	1,802	38,600
Instructor	2,024	28,400	871	26,400
New Doctorate	468	43,900	124	43,400
ABD	400	41,800	109	41,300

* American Assembly of Collegiate Schools of Business

SOURCE: American Assembly of Collegiate Schools of Business, 1988-89 Salary Survey, December 1988

TABLE 232

MEAN SALARIES OF BUSINESS FACULTY IN AACSB* MEMBER SCHOOLS BY DISCIPLINE/FIELD AND RANK, 1988-89

DISCIPLINE / FIELD	Professor		Assoc. Professor		Ass't. Professor		Instructor		New Doctorate		ABD	
	Number Reporting	Mean	Number Reporting	Mean	Number Reporting	Mean	Number Reporting	Mean	Number Reporting	Mean	Number Reporting	Mean
Accounting	1,247	\$58,900	1,350	\$46,800	1,572	\$41,900	559	\$28,700	71	\$48,300	72	\$44,300
Economics	1,042	52,800	901	41,400	784	35,200	166	27,500	51	37,000	47	32,900
Finance	956	60,900	831	48,300	950	44,700	160	30,200	80	47,800	66	45,600
Management	752	55,300	735	43,700	692	38,700	247	27,500	44	43,000	45	40,500
Marketing	879	57,400	817	45,600	856	41,200	260	28,300	70	43,200	59	41,400
Quantitative Methods	454	59,200	381	45,000	327	40,000	94	27,400	20	40,300	12	45,300
Business Education	165	43,800	139	35,700	154	30,600	72	23,700	7	33,000	2	33,000
Business Law/Legal Environment	199	50,700	293	39,600	318	33,700	43	26,900	7	31,000	1	41,000
Management Information Science/Computer Information Science	363	56,700	520	45,900	623	40,900	238	28,600	47	45,400	30	43,600
Production/Operations Management / Managerial Economics	240	59,200	225	45,900	242	43,800	43	33,800	17	47,600	31	42,900
Behavioral Science/ Organizational Behavior	306	62,700	278	47,600	262	42,600	24	33,500	16	43,800	14	40,900
International Business	82	58,300	62	47,300	53	42,600	8	38,700	8	43,700	2	46,000
Personnel	157	55,600	151	44,000	84	40,800	12	27,200	4	39,200	8	40,200
Policy and Control	161	58,700	132	48,500	153	43,000	22	34,400	17	43,900	8	43,800
Other	236	52,200	232	41,500	176	34,500	76	25,000	9	36,200	3	35,000
All Combined	7,239	56,900	7,047	44,900	7,246	40,300	2,024	28,400	468	43,900	400	41,800

* American Assembly of Collegiate Schools of Business

SOURCE: American Assembly of Collegiate Schools of Business, 1988-89 Salary Survey, December 1988

TABLE 233

NUMBER AND MEAN 12-MONTH SALARIES OF ADMINISTRATIVE PERSONNEL IN AACSB*-MEMBER SCHOOLS BY TYPE OF INSTITUTION AND ADMINISTRATIVE POSITION, 1988-89

ADMINISTRATIVE POSITION	PUBLIC		PRIVATE		ACCREDITED		NONACCREDITED		ALL COMBINED	
	Number Reporting	Mean	Number Reporting	Mean	Number Reporting	Mean	Number Reporting	Mean	Number Reporting	Mean
Dean	298	\$75,300	137	\$78,600	237	\$85,800	198	\$65,100	435	\$76,400
Associate Dean	212	69,700	99	67,600	243	72,500	68	56,700	311	69,000
Assistant Dean	155	48,600	95	44,900	184	49,400	66	41,000	250	47,200
Accounting Dept. Chair	51	69,000	8	68,100	43	71,200	16	62,600	59	68,900
Director of School of Accounting	25	70,800	5	68,200	27	73,300	3	43,600	30	70,300
Academic Dept. Chair	517	64,400	116	62,700	450	68,000	183	54,700	633	64,100
Director of U.G. Program	26	44,600	21	49,500	36	49,500	11	37,800	47	46,800
Director of Graduate Program	45	57,400	32	45,300	54	56,400	23	43,000	77	52,400
Director of Placement	24	40,000	25	43,200	42	43,300	7	31,800	49	41,600
Director of Cooperative Program	9	28,300	4	41,700	9	32,700	4	31,700	13	32,400
Director of Executive Development	53	53,200	31	61,400	66	59,600	18	43,900	84	56,200
Director of Internship	10	33,600	6	45,000	9	41,800	7	32,700	16	37,800
Director of Research (Auber Unit)	30	55,400	1	66,000	27	56,300	4	51,700	31	55,700
Director of Research (Other)	23	57,000	5	47,600	18	57,700	10	51,200	28	55,300
Director of MBA/Masters Adm.	33	38,400	34	37,300	49	38,700	18	35,500	67	37,800
Other	160	43,000	59	38,300	150	42,600	69	39,900	219	41,800

* American Assembly of Collegiate Schools of Business

SOURCE: College and University Personnel Association, 1988-89 Administrative Compensation Survey

TABLE 234

**NUMBER AND MEDIAN SALARIES PAID TO ADMINISTRATIVE OFFICERS IN HIGHER EDUCATION
INSTITUTIONS BY POSITION AND CONTROL, 1988-89**

POSITION	ALL INSTITUTIONS		MEDIAN SALARY	
	Number	Salary	Public	Private
Chief Executive Officer, System	111	\$95,242	\$95,000	\$113,000
Chief Executive Officer, Single Institution	1,105	80,000	79,044	93,500
Executive Vice President	223	68,000	68,000	82,014
Chief Academic Officer	1,149	62,000	64,600	64,000
Chief Business Officer	1,035	58,187	60,001	62,500
Chief Administrative Officer	154	60,200	64,169	53,550
Chief Development Officer	732	54,000	55,000	58,850
Chief Public Relations Officer	643	37,550	42,000	36,744
Chief Planning Officer	171	55,000	55,000	58,000
Chief Planning & Budget Officer	79	59,080	61,200	53,500
Chief Personnel/Human Resources Officer	645	44,000	47,700	41,000
Chief Health Professions Officer	83	70,000	67,945	70,000
Chief Budgeting Officer	327	48,275	49,092	48,250
Systems Analyst I (highest level)	349	35,000	35,273	35,000
Systems Analyst II (lowest level)	246	27,408	28,959	26,978
Programmer Analyst I (highest level)	479	28,992	29,405	28,300
Programmer Analyst II (lowest level)	394	23,633	24,000	24,000
Chief Financial Officer	259	53,000	53,612	57,300
Director, Learning Resources Center	401	36,438	41,039	27,951
Director, Library Services	1,019	41,561	46,675	40,508
Director, Computer Center	641	45,563	48,700	46,250
Data Base Administrator	187	38,148	39,410	35,000
Director, Computer Center Operations/Academic	371	43,000	45,900	42,600
Director, Computer Center Operations/Administrative	294	42,000	44,200	42,520
Director, Educational Media Services	460	32,201	38,064	27,525
Director, Enrollment Management	103	44,168	44,168	42,000
Director, Institutional Research	491	42,700	45,420	40,000
Director, Special & Deferred Gifts	145	40,000	43,500	43,050
Administrator, Grants & Contracts	399	42,350	44,242	35,840
Registrar	945	35,400	34,100	33,000
Director, Affirmative Action/Equal Employment	265	42,540	42,500	44,405
Manager, Employment	206	28,890	28,860	33,000
Comptroller	674	43,600	47,150	44,000
General Counsel	169	63,410	62,700	73,200
Director, Accounting	478	35,304	37,608	33,000
Director, Internal Audit	258	41,700	41,575	43,000
Bursar	327	32,000	35,237	29,500
Director, Church Relations	81	30,000		27,500
Director, Food Services	285	35,368	37,148	37,394
Chief, Physical Plant/Facilities Management Officer	1,002	42,424	45,350	42,400
Director, Student Activities	653	28,530	33,841	24,500
Director, Purchasing	649	34,008	35,560	32,280
Director, Bookstore	676	26,000	28,694	24,090
Director, Campus Security	693	31,800	35,215	31,000
Director, Telecommunications	250	39,000	42,180	39,000
Director, Information Systems	212	50,000	51,686	48,714
Director, News Bureau	213	28,932	31,700	27,000
Director, Auxiliary Services	278	42,161	43,065	42,845
Chief Student Affairs Officer	1,096	50,256	55,120	47,750
Director, Admissions	809	39,500	41,115	42,400
Director, Foreign Students	207	31,400	34,507	27,310
Director, Housing and Food Services	36	52,536	54,500	47,300
Director, Health and Safety	157	38,740	40,000	38,906
Director, Student Financial Aid	1,068	34,029	36,840	33,125
Director, Student Placement	753	32,404	36,077	29,832
Director, Student Counseling	706	38,100	42,100	34,450

SOURCE: College and University Personnel Association, 1988-89 Administrative Compensation Survey

TABLE 234 (Continued)

**NUMBER AND MEDIAN SALARIES PAID TO ADMINISTRATIVE OFFICERS IN HIGHER EDUCATION
INSTITUTIONS BY POSITION AND CONTROL, 1988-89**

POSITION	ALL INSTITUTIONS		MEDIAN SALARY	
	Number	Salary	Public	Private
Director, Student Union	301	\$36,936	\$40,000	\$34,250
Director, Student Health Services (Physician Administration)	236	65,556	66,676	72,000
Director, Student Health Services (Nurse Administration)	444	25,524	29,466	26,000
Director, Student Housing	542	30,625	35,726	30,000
Director, Athletics	741	44,350	49,068	42,597
Director, Campus Recreation/Intermurals	334	29,150	32,800	26,200
Director, Sports Information	398	24,670	28,000	22,575
Director, Alumni Affairs	662	31,080	34,400	31,000
Director, Information Office	334	33,350	37,653	32,800
Director, Community Services	156	35,587	40,000	34,200
Administrator, Hospital Medical Center	41	109,700	110,240	54,000
Director, Publications	390	31,502	35,004	30,187
Director, Risk Management & Insurance	113	44,486	42,572	46,000
Director, Minority Affairs	166	33,800	35,241	34,000
Chief Development & Public Relations Officer	180	60,000	59,891	66,850
Director, Personnel & Affirmative Action	189	36,274	39,865	34,300
Manager, Personnel Information Systems	91	33,600	33,600	36,500
Director, Admissions & Financial Aid	130	43,315	43,315	48,880
Director, Development & Alumni Affairs	105	42,350	42,935	46,260
Director, Admissions & Registrar	188	44,144	45,253	46,842
Dean, Architecture	53	76,400	76,150	83,000
Dean, Agriculture	71	75,000	75,000	
Dean, Arts and Letters	102	55,816	57,075	64,740
Dean, Arts and Sciences	354	60,732	61,308	62,000
Dean, Business	548	60,050	60,186	63,440
Dean, Communications	83	55,303	53,573	65,100
Dean, Continuing Education	514	46,680	49,000	42,800
Dean, Dentistry	47	103,629	95,996	107,000
Dean, Education	348	60,192	63,750	49,450
Dean, Engineering	221	76,008	75,435	80,800
Dean, Extension	84	52,860	53,168	56,350
Dean, Fine Arts	152	53,573	60,000	51,469
Dean, Graduate Programs	332	61,509	65,208	55,568
Dean, Health Related Professions	204	54,704	55,262	55,000
Dean, Home Economics	47	65,120	62,772	66,625
Dean, Humanities	169	47,250	50,406	39,400
Dean, Instruction	43	52,000	52,223	
Dean, Law	115	100,500	95,698	101,000
Dean, Library and Information Sciences	57	60,274	60,274	50,600
Dean, Mathematics	100	47,500	48,459	47,500
Dean, Medicine	66	143,200	123,988	164,000
Dean, Music	70	57,000	64,500	57,000
Dean, Nursing	247	52,917	59,436	51,250
Dean, Occupational Studies/Voc Educ /Technology	193	49,688	49,688	43,646
Dean, Pharmacy	49	83,500	88,894	74,000
Dean, Public Health	17	95,299	79,968	
Dean, Sciences	223	51,905	54,746	47,443
Dean, Social Sciences	183	47,549	50,406	40,320
Dean, Social Work	61	68,500	68,000	74,000
Dean, Special Programs	100	42,042	45,000	42,000
Dean, Undergraduate Programs	84	52,356	56,500	57,300
Dean, Veterinary Medicine	23	92,340	90,000	

SOURCE: College and University Personnel Association, 1988-89 Administrative Compensation Survey.

TABLE 235

NUMBER AND MEDIAN SALARIES PAID TO ADMINISTRATIVE OFFICERS IN HIGHER EDUCATION INSTITUTIONS*
BY POSITION, MINORITY/NON-MINORITY STATUS AND SEX. 1988-89

POSITION	Non-Minority		Minority		Men		Women	
	No.	Salary	No.	Salary	No.	Salary	No.	Salary
Chief, Executive Officer, System	83	\$100,114	8	\$80,000		\$		\$
Chief Executive Officer, Single Institution	461	97,000	33	86,000	465	96,000	32	93,500
Executive Vice President	121	80,015	10	68,604	122	82,000	12	68,383
Chief Academic Officer	507	75,000	41	70,560	460	76,000	91	67,275
Chief Business Officer	454	72,384	26	68,000	450	72,500	33	63,000
Chief Administrative Officer	100	68,000	7	65,000	94	66,976	14	64,500
Chief Student Affairs Officer	438	60,500	94	61,352	415	61,117	118	55,120
Chief Development Officer	363	65,000	20	50,300	313	65,556	75	55,000
Chief Public Relations Officer	347	46,500	16	48,552	205	50,960	159	41,660
Chief Financial Officer	150	60,800	9	58,601	141	60,800	22	65,000
Chief Planning Officer	115	59,737	15	48,060	104	59,500	27	53,018
Chief Personnel/Human Resources Officer	410	48,363	59	47,580	306	52,000	166	42,982
Chief Health Professions Officer					56	104,860	13	53,553
Director, Health and Safety	131	40,000	9	35,700	125	41,000	15	35,244
Chief Budgeting Officer	250	50,010	21	43,512	202	52,000	71	42,788
General Counsel	142	64,588	12	57,328	119	65,790	37	62,500
Director, Telecommunications	205	42,180	14	36,034	156	44,800	62	33,400
Director, Learning Resources Center	170	41,295	22	41,520	117	45,600	77	35,535
Director, Library Services	469	53,000	39	46,274	343	54,150	168	50,250
Director, Computer Center	352	54,372	18	48,819	338	54,577	33	45,396
Director, Computer Center Operations/Academic	228	48,074	12	45,900	206	48,710	34	45,715
Director, Computer Center Operations/Administrative	185	47,763	10	44,844	167	49,805	27	42,000
Director, Educational Media Services	266	36,162	20	35,726	243	38,068	43	32,774
Director, Institutional Research	301	47,702	35	46,283	221	50,940	115	40,300
Director, Special & Deferred Gifts					71	44,100	26	42,015
Administrator, Grants & Contracts	285	47,061	20	35,086	202	50,950	106	36,000
Director, Affirmative Action/Equal Employment	94	40,000	146	45,475	95	46,156	146	40,500
Data Base Administrator	135	39,825	14	39,100	112	41,561	38	34,098
Systems Analyst I (Highest Level)	168	35,000	17	35,712	142	35,197	44	32,315
Systems Analyst II (Lowest Level)	113	27,145	10	26,105	78	27,386	42	26,845
Programmer Analyst I (Highest Level)	188	30,382	19	25,251	130	31,968	77	28,000
Programmer Analyst II (Lowest Level)	146	24,000	23	27,000	95	24,500	71	23,500
Director, Internal Audit	221	42,700	25	48,420	180	44,988	67	34,704
Bursar	206	35,368	28	31,500	126	38,668	110	30,000
Director, Accounting	292	38,590	26	42,000	212	41,388	107	35,000
Comptroller	382	50,140	29	50,393	330	52,000	81	44,250
Chief Physical Plant/Facilities Management Officer	508	51,000	32	44,780	535	50,900	21	50,562
Director, Food Services	167	41,640	12	33,204	128	41,880	52	38,268
Director, Campus Ministries	125	33,000	7	32,336	111	35,000	22	24,150
Director, Purchasing	424	38,000	31	33,000	352	39,468	105	30,953
Director, Bookstore	323	32,200	21	30,000	225	35,881	121	27,295
Director, Campus Security	429	35,904	53	36,201	467	35,907	16	34,937
Director, Information Systems	155	53,560	7	50,748	142	53,911	21	47,760
Director, News Bureau	167	31,300	8	26,148	78	33,150	99	29,017
Director, Auxiliary Services	234	47,976	15	34,792	179	48,118	31	36,538
Director, Admissions	372	47,500	38	44,189	315	48,077	96	43,900
Director, Foreign Students	137	33,200	27	33,490	90	36,000	76	28,498
Director, International Studies Education	117	45,000	12	47,520	95	49,500	38	31,078

SOURCE: College and University Personnel Association, 1988-89 Administrative Compensation Survey.

TABLE 235 (Continued)

NUMBER AND MEDIAN SALARIES PAID TO ADMINISTRATIVE OFFICERS IN HIGHER EDUCATION INSTITUTIONS*
BY POSITION, MINORITY/NON-MINORITY STATUS AND SEX. 1988-89

POSITION	Non-Minority		Minority		Men		Women	
	No.	Salary	No.	Salary	No.	Salary	No.	Salary
Director, Student Financial Aid	447	\$40,407	90	\$39,200	339	\$42,264	13	\$47,000
Director, Student Placement	400	36,500	43	37,355	233	41,382	212	32,562
Director, Student Counseling	362	42,436	46	43,738	275	44,795	134	37,100
Director, Student Union	225	38,858	16	35,394	185	40,275	57	30,700
Director, Student Health Services (Physician Admin.)	190	70,000	12	38,535	143	70,000	59	63,605
Director, Student Activities	325	33,086	49	34,600	206	37,293	168	30,450
Director, Student Health Services (Nurse Admin.)	226	29,000	26	26,472	6	26,312	247	28,960
Director, Student Housing	315	35,357	30	33,300	228	38,016	117	31,930
Director, Sports Information	302	26,123	14	25,000	301	26,375	17	24,286
Director, Athletics	403	51,227	31	49,008	414	51,550	23	42,000
Director, Campus Recreation/Intermurals	230	31,178	19	28,884	198	31,328	53	28,064
Director, Alumni Affairs	368	36,000	25	35,060	215	41,830	179	32,000
Director, Information Office	195	39,324	16	35,448	122	42,444	91	37,653
Director, Community Services	67	40,980	11	55,386	41	47,430	38	35,500
Director, Publications	266	33,674	8	34,398	116	38,645	159	32,000
Director, Risk Management and Insurance	99	44,486	9	44,630	80	45,000	28	37,600
Chief Planning & Budget Officer					53	66,408	9	61,200
Chief Development & Public Relation Officers					92	72,451	28	62,904
Director, Personnel & Affirmative Action	66	40,687	16	47,138	37	44,844	45	38,300
Director, Admissions & Financial Aid	59	53,000	5	44,800	51	53,277	13	47,000
Director, Minority Affairs	9	37,000	119	34,650	78	38,000	52	30,000
Registrar	455	43,202	23	38,563	307	46,000	171	37,100
Director, Admissions & Registrar	87	51,884	8	45,255	78	52,391	17	44,291
Dean Architecture	52	83,000	6	57,629				
Dean, Arts and Letters	66	64,740	5	61,980	61	64,000	10	55,437
Dean, Arts and Sciences	241	67,500	23	60,900	226	67,452	39	63,000
Dean, Business	331	70,776	24	58,432	325	71,400	32	52,820
Dean, Communications					48	66,625	6	55,437
Dean, Continuing Education	268	55,003	24	55,693	208	58,000	84	49,200
Dean, Education	239	65,237	23	65,200	202	65,904	60	61,225
Dean, Engineering	156	82,300	16	75,000				
Dean, Extension	46	65,300	7	54,486	42	67,500	11	53,286
Dean, Fine Arts	86	62,408	12	65,130	87	62,944	11	60,000
Dean, Graduate Programs	233	66,100	30	60,000	211	66,229	54	63,410
Dean, Health Related Professions	109	62,000	13	64,200	76	64,250	47	57,279
Dean, Home Economics	36	68,136	7	54,855	10	62,772	33	68,512
Dean, Humanities	70	59,400	6	38,019	57	59,400	19	57,000
Dean, Instruction					11	57,572	5	52,000
Dean, Law					100	102,000	6	109,512
Dean, Library & Information Sciences	41	64,000	6	59,942	33	70,000	14	55,916
Dean, Mathematics					40	53,000	6	48,079
Dean, Nursing	139	66,570	19	63,200	5	67,536	155	64,575
Dean, Occupational Studies/Voc. Educ./Technology	80	56,327	8	49,795	73	55,620	15	57,680
Dean, Sciences	112	60,000	12	59,189	111	61,296	13	50,000
Dean, Social Sciences	78	58,944	8	54,543	71	61,751	16	57,075
Dean Social Work	37	78,500	17	74,000	40	78,500	14	65,900
Dean, Special Programs	29	51,186	10	49,021	22	51,186	17	48,163
Dean, Undergraduate Programs					36	64,294	14	58,183

*With Budgets equal to or above median of \$15,073,393.

SOURCE: College and University Personnel Association, 1988-89 Administrative Compensation Survey.

TABLE 236

NUMBER AND MEDIAN SALARIES PAID TO ADMINISTRATIVE OFFICERS IN HIGHER EDUCATION INSTITUTIONS*
BY POSITION, MINORITY/NON-MINORITY STATUS AND SEX. 1988-89

POSITION	Non-Minority		Minority		Men		Women	
	No.	Salary	No.	Salary	No.	Salary	No.	Salary
Chief, Executive Officer, Single Institution	544	\$70,000	39	\$68,640	510	\$70,000	75	\$67,500
Executive Vice President	74	56,000	5	60,000	69	58,300	10	39,000
Chief Academic Officer	527	51,500	32	51,936	452	52,076	110	50,000
Chief Business Officer	502	48,802	23	45,636	454	49,744	70	41,213
Chief Financial Officer	77	42,000	10	41,846	68	42,961	19	36,580
Chief Student Affairs Officer	470	40,919	54	45,000	372	43,595	153	37,468
Chief Development Officer	305	44,100	17	45,000	239	45,400	83	40,000
Chief Public Relations Officer	242	28,189	14	28,114	111	30,900	144	26,478
Chief Administration Officer					32	44,183	10	42,000
Chief Planning Officer					31	46,850	8	36,500
Chief Personnel/Human Resources Officer	138	30,751	15	32,496	62	35,690	92	26,500
Chief Budgeting Officer					32	39,455	15	36,000
Director, Telecommunications					13	28,000	9	25,000
Director, Learning Resources Center	171	31,500	16	32,264	81	34,500	107	29,313
Director, Library Services	453	32,310	27	31,843	231	34,000	251	30,000
Director, Computer Center	229	34,796	22	32,626	207	36,000	45	29,442
Director, Computer Center Operations/Academic	118	32,135	6	29,214	98	33,063	25	26,357
Director, Computer Center Operations/Administrative					61	32,000	32	27,500
Director, Educational Media Services	141	25,474	15	26,196	115	27,910	42	22,011
Director, Institutional Research	119	36,048	19	31,951	86	36,486	54	31,951
Director, Special & Deferred Gifts					25	31,500	17	28,173
Administrator, Grants & Contracts	67	30,500	11	29,103	36	35,000	42	27,000
Director, Affirmative Action/Equal Employment	10	37,780	6	36,830	8	43,224	9	27,956
Data Base Administrator					17	28,430	11	25,000
Systems Analyst I (Highest Level)	49	29,000	5	23,363	37	28,892	16	26,730
Systems Analyst II (Lowest Level)					15	22,200	9	17,600
Programmer Analyst I (Highest Level)	95	25,517	7	22,491	61	25,500	41	25,517
Programmer Analyst II (Lowest Level)	68	20,309	10	22,050	30	20,232	46	21,000
Director, Accounting					64	28,817	84	24,927
Bursar	74	23,600	10	21,000	19	26,300	65	21,800
Comptroller	234	33,900	15	30,953	142	35,400	108	30,100
Chief Physical Plant/Facilities Management Officer	403	32,600	30	26,780	423	32,762	11	30,850
Director, Student Activities	225	22,750	32	27,000	115	26,004	142	21,630
Director, Food Services	84	26,388	10	23,562	60	28,000	34	21,000
Director, Purchasing	162	26,390	17	24,620	93	28,576	86	23,000
Director, Bookstore	282	19,968	26	21,549	83	22,700	227	19,083
Director, Campus Security	158	22,895	32	23,000	182	23,000	9	17,744
Director, Information Systems					31	42,000	14	20,604
Director, News Bureau					12	23,955	19	20,513

SOURCE: College and University Personnel Association, 1988-89 Administrative Compensation Survey.

TABLE 236 (Continued)

NUMBER AND MEDIAN SALARIES PAID TO ADMINISTRATIVE OFFICERS IN HIGHER EDUCATION INSTITUTIONS*
BY POSITION, MINORITY/NON-MINORITY STATUS AND SEX. 1988-89

POSITION	Non-Minority		Minority		Men		Women	
	No.	Salary	No.	Salary	No.	Salary	No.	Salary
Director, Auxiliary Services	56	31,610	6	28,292	40	33,280	22	25,700
Director, Admissions	342	33,296	27	30,200	249	33,920	121	31,101
Director, Foreign Students	25	25,263	9	28,000	15	28,000	19	23,216
Director, Student Financial Aid	439	27,300	48	29,100	217	31,404	273	25,200
Director, Student Placement	262	26,250	23	25,233	97	30,254	189	24,000
Director, Student Counseling	230	29,925	32	29,629	134	33,288	130	26,340
Director, Student Union	45	25,344	7	29,802	35	29,802	18	23,500
Director, Student Health Services (Physician Admin.)					15	30,000	14	20,356
Director, Student Health Services (Nurse Admin.)	151	20,060	18	17,800				
Director, Student Housing	162	22,000	16	20,500	87	25,440	92	20,016
Director, Athletics	270	33,432	13	29,249	252	33,964	32	25,466
Director, Campus Recreation/Intermurals	65	22,000	5	20,043	57	22,200	14	20,000
Director, Alumni Affairs	229	25,000	11	21,936	78	28,000	163	23,500
Director, Information Office					49	27,207	65	25,633
Director, Community Services	59	33,600	10	38,448	25	37,295	44	32,760
Director, Publications					33	29,775	72	23,500
Chief Development & Public Relation Officers					35	41,000	22	32,544
Director, Personnel & Affirmative Action	84	32,312	21	32,300	30	37,764	75	31,300
Director, Admissions & Financial Aid					45	37,080	17	33,800
Director, Development & Alumni Affairs					15	32,823	20	34,125
Registrar	404	28,376	35	26,196	188	33,571	252	25,056
Director, Admissions & Registrar	76	38,165	6	23,100	58	38,883	24	31,816
Dean, Arts and Letters					22	47,932	5	46,388
Dean, Arts and Sciences					59	46,613	24	39,100
Dean, Business	157	44,065	12	35,000	137	43,704	32	42,180
Dean, Communications					11	46,055	11	36,440
Dean, Continuing Education	180	39,399	20	34,500	118	39,191	82	37,022
Dean, Education	70	42,000	6	26,000	49	45,816	27	34,933
Dean, Extension					15	36,580	11	37,000
Dean, Fine Arts					37	41,802	13	35,363
Dean, Graduate Programs					39	42,800	15	40,000
Dean, Health Related Professions	62	43,203	5	34,171	24	45,294	43	42,300
Dean, Humanities	76	41,311	8	35,000	48	42,500	36	36,000
Dean, Nursing	75	40,841	5	37,674				
Dean, Mathematics					35	41,802	11	36,468
Dean, Occupational Studies/Voc. Educ./Technology	83	44,161	7	40,000	72	43,000	18	44,540
Dean, Sciences	81	42,781	5	27,200	71	43,384		
Dean, Social Sciences	75	38,438	10	32,292	65	38,115	20	40,000
Dean, Special Programs	44	38,047	11	39,266	34	38,109	21	36,430
Dean, Undergraduate Programs					15	42,100	15	40,100

*With Budgets below median of \$15,075,393.

SOURCE: National Education Association, *Estimates of School Statistics 1988-89*

TABLE 237

ESTIMATED AVERAGE ANNUAL SALARIES OF ELEMENTARY AND SECONDARY INSTRUCTIONAL STAFF AND PUBLIC SCHOOL CLASSROOM TEACHERS BY STATE, 1988-89

STATE	Instructional Staff	CLASSROOM TEACHERS			% Increase 1987-88
		Elementary School	Secondary School	All Teachers	
50 STATES & D.C.	\$30,853	\$28,909	\$30,293	\$29,567	5.6
Alabama	26,150	25,190	25,190	25,190	8.0
Alaska	42,818	41,252	41,980	41,693	3.1
Arizona	31,985	28,515	29,049	28,684	4.7
Arkansas	22,503	20,959	22,408	21,692	6.6
California	36,381	34,372	36,542	35,285	6.4
Colorado	34,918	28,792	30,332	29,558	3.2
Connecticut	38,793	36,939	38,175	37,339	11.5
Delaware	32,763	30,588	32,612	31,605	6.9
District of Columbia	45,603	37,504	37,504	37,504	8.1
Florida	28,697	27,025	25,834	26,648	5.8
Georgia	29,752	27,743	28,512	28,038	7.1
Hawaii	31,945	30,778	30,778	30,778	6.9
Idaho	24,265	22,270	23,350	22,860	2.8
Illinois	32,257	29,868	33,809	31,195	5.2
Indiana	29,642	28,019	29,376	28,664	6.6
Iowa	26,704	24,840	26,831	25,884	4.2
Kansas	29,248	27,401	27,401	27,401	11.2
Kentucky	26,020	24,310	26,206	24,920	2.8
Louisiana	23,100	22,090	23,240	22,470	5.9
Maine	25,744	24,408	25,912	24,933	6.4
Maryland	35,127	32,799	34,786	33,700	8.9
Massachusetts	33,163	28,393	32,055	31,670	4.5
Michigan	35,741	34,419	34,419	34,419	4.5
Minnesota	32,444	30,900	32,130	31,500	5.4
Mississippi	22,664	21,691	22,499	22,036	7.2
Missouri	27,001	25,108	26,887	25,981	5.1
Montana	26,291	23,820	25,691	24,414	2.6
Nebraska	26,674	23,604	24,773	24,203	6.7
Nevada	30,150	28,020	29,880	28,840	4.5
New Hampshire	26,245	26,703	26,703	26,703	11.2
New Jersey	34,390	32,290	33,855	32,923	7.2
New Mexico	25,400	24,953	25,691	25,205	4.3
New York	37,400	34,000	37,900	36,500	5.8
North Carolina	26,761	25,529	25,827	25,650	3.0
North Dakota	22,994	22,125	22,464	22,249	2.7
Ohio	30,882	28,931	30,745	29,156	5.6
Oklahoma	22,600	21,500	22,500	22,000	1.7
Oregon	30,800	28,900	30,300	29,500	5.1
Pennsylvania	31,447	30,343	31,080	30,720	5.3
Rhode Island	35,564	34,795	33,586	34,233	4.2
South Carolina	26,200	24,474	26,116	25,060	2.7
South Dakota	22,005	20,452	20,510	20,480	3.7
Tennessee	26,512	25,560	25,715	25,619	7.7
Texas	27,565	26,041	27,070	26,513	3.7
Utah	24,128	22,471	24,076	23,023	2.0
Vermont	27,265	26,243	27,385	26,861	9.6
Virginia	29,503	28,205	30,207	29,056	6.9
Washington	30,477	28,637	29,891	29,176	3.4
West Virginia	22,889	21,460	22,500	21,904	0.8
Wisconsin	32,600	30,257	32,200	31,046	6.6
Wyoming	28,844	27,566	28,029	27,685	2.0

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SCIENTIFIC MANPOWER 1987 AND BEYOND, January 1987. Members - \$15; non-members - \$15

Proceedings of a Symposium detailing the effect of today's budgets on tomorrow's science and engineering manpower.

THE TECHNOLOGICAL MARKETPLACE - Supply and Demand for Scientists and Engineers, May 1985.* Members - \$20; non-members \$25

This 54 page report, which includes over 50 tables and charts, examines past, present and future imbalances in the supply of and demand for scientists and engineers.

*New edition planned in 1990

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